

Person hurt by road that wirelessly charges electric vehicles

A person was hurt in the Swedish city of Lund when inadvertently entering an experimental road with embedded coils to charge electric vehicles. The person suffered from electrical hypersensitivity (EHS) and was strongly affected by the radiation.

The experimental road handles regular traffic and was not marked with warning signs. The person who got hurt was not aware the road was radiant. It took about two months for the person to recover, which could have been avoided if warning signs had been posted.

The Swedish EHS patient organization complained to the Swedish Department of Transportation (Trafikverket) which oversees the experiment. They asked for warning signs to be posted and also signs for an alternative route around the test area.

The reply was that they would set up some sort of sign, though they did not promise signs for an alternative route.

Wireless charging of electric vehicles

Electricity can be transported for short distances without a cord. This is done by magnetic fields generated by coils. This is already commonly used to charge mobile phones when placing them on a small charging pad. Another example is some toll gates on bridges and roads.

In the roadway experiments a series of coils are embedded in the road which sends magnetic fields upwards. Electric vehicles equipped with a receiving coil can turn the magnetic field into electricity as they drive over the coil, or stand over it, such as at a traffic light.

These magnetic fields are much more powerful than those used in a mobile phone charger. This is both because much more electricity is needed and also to bridge the distance from the road surface to the bottom of the car.

Presumably, only the coils right below an electric vehicle will send out the strong magnetic field, as the system would otherwise waste a lot of electricity. But there

will need to be wireless communication between the coils and the cars and that would need to radiate all the time so the cars know about the charging system and the coil knows when a car is above it.

There will also be some leakage of the magnetic field when a car is charged. Some will escape to the sides, where they could effect people in other cars or on the sidewalk.

Health effects

These “electrified roads” may only impact bystanders who have electrical hypersensitivity (EHS). People who are inside a car or bus equipped with a receiver coil could be exposed to very strong magnetic fields.

A design study by Swedish scientist Yngve Hamnerius and colleagues suggests such a charging system could expose people to magnetic fields up to 62 milligauss (6.2 uT) at 85 kilohertz frequencies, while transferring 3000 watts of power.

In 2002 the World Health Organization stated that such types of magnetic fields are a Group 2B “possible” carcinogen.

The magnetic fields people are exposed to will surely be within the official guidelines, though these are based on the outdated belief that the only possible harm is from heating of tissues. This belief is strongly supported by commercial interests and their supporters, such as ICNIRP.

No standards consider the needs of people who are hypersensitive to these fields.

Why wireless charging?

Charging a vehicle while driving, or stopped at a traffic light, extends the time before it has to be recharged. Charging an electric vehicle takes longer than filling a gasoline-powered car and there are fewer charging stations. Charging is seen as a “hassle” by some and deters some people from buying electric cars.

The experiment in Lund was for electric city busses. The hope was that the busses could stay longer on the route before having to return to their depot for charging.

An upcoming experiment in Detroit should open a one-mile “electric road” in 2023. This experiment will focus on personal vehicles.

More information

Articles about electrical hypersensitivity: www.eiwellspring.org/intromenu.html.

Sources

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