

Fifty engineers got sick with electrical sensitivities at a telecom research center — modifying their workplace helped

The story of how more than fifty engineers developing mobile phone technologies got sick with electrical sensitivity and how they could continue working when the company installed shielding and other low-EMF technologies.

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In the late 1980s one of the world's foremost research centers for mobile phone technologies was Ellemtel in Stockholm, Sweden. It was mostly funded by the industry heavyweight Ericsson. The engineers there used the latest technologies. There was an average of 2.5 computers per engineer, and they frequently upgraded to the newest computer models.

In those days computer screens were bulky contraptions that gave off a lot of heat and chemical fumes from the circuit boards, flame retardants and plastics inside. At the same time, they exposed the user to pulsing magnetic fields and even small amounts of X-rays.

Many of the engineers also soldered electronic circuit boards they were developing. They even stress tested their circuit boards, which caused the boards to overheat and give off smoke.

The offices had little or no ventilation.

Symptoms

One of the lead engineers noticed as early as 1986 that he could sometimes feel his computer. But it wasn't bad and, like many engineers there, he was a workaholic and fully focused on the exciting work he was doing. He later named the first computer that affected him "Chernobyl" after the Russian nuclear power plant that had a meltdown.

An experimental cell tower (base station) was installed on the roof of the building in late 1987, and gradually put into use. During 1988 more and more of the engineers in the building noticed problems, such as flushing of their skin, headaches, nausea and other symptoms. Some complained that the fluorescent lights bothered them.

More than fifty people — perhaps even sixty — felt sick in the building. Some were so bad they took long sick leaves.

By then, the sensitive lead engineer was also having symptoms in his own home.

The company acts

The sick engineers were the lifeblood of the research center and they were the world's leading specialists that would be very difficult to replace. The company had to do something. They called in a professor from a technical university and a company specializing in mitigating electromagnetic interference from transformers and electronic equipment. The company was willing to spend serious money on this problem.

They shielded the rooms the sick engineers worked in. In some they covered the walls, ceilings and floors with copper plates. In the most heavily shielded rooms they used three layers of shielding — two outer layers of steel “transformer plates” and an inner layer of 5 millimeters (1/5 inch) welded aluminum plates. All were installed with overlapping seams.

The electrical system was modified to minimize electrical and magnetic radiation, and to prevent stray electricity.

They even developed their own shielded computers. These came with custom built shielded LCD monitors, instead of the then-typical CRT screens. (CRT screens dominated the rest of the world for another dozen years.)

The company also modified the home of the sick lead engineer. This included changing the wiring and shielding some of the rooms.

Success

The company spent a lot of money, but the project was a complete success. The engineers were back at work and felt good in their modified work place.

When the lead engineer became unable to tolerate his own car, the company organized a taxi service for him. He was transported on the back seat of an old

Mercedes diesel car. These cars had no radiating spark plugs, ignition system, fuel pumps, etc. (Some years later, others figured out how to lower the radiation in these Mercedes cars further by disconnecting the alternator so even highly sensitive people could drive themselves.)

Politics

The modifications were a success, but for a company that developed mobile phones and cellular base stations it did not look so good that their products could make people sick.

New management at the company apparently wanted to keep quiet about the technical solutions they developed. Instead, there was talk about “techno-stress” and other vague explanations. The engineers were offered acupuncture treatments and cognitive behavioral therapies. Eventually, some were laid off.

Sources

A full chapter is dedicated to the Ellemtel story in *The Invisible Disease*, by Gunni Nordström (O-Books, 2004).

The story about the lead engineer is also recounted in the Swedish-language article “Per Segerbäck jobbade kvar tio år efter att han blivit elöverkänslig” (*Ljusglimten*, 2017/1).

More information

The website www.eiwellspring.org has other articles about living with electrical sensitivity, the history of the disease and low-EMF technologies.