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IN A SPECIAL TAXI and AN IRON-CLAD ROOM

Per Segerbäck is forced to live apart from everything electric.

Per Segerbäck, 37, is one of the technicians who helped create Ericsson's world reputation. He works with custom-made integrated circuits for telecommunication. He loves his work but has paid a high price for it. Since 1989 he has been gravely electrically hypersensitive.

Segerbäck's workplace is in Ericsson's and Swedish Telecom's development company, Ellemtel, outside Stockholm. Here he can exist in only one single room. It is clad in iron sheeting. At home in his house in Vällingby, his employer has also clad one room in iron sheeting to make his room as electrically free as possible.

Between these two iron-clad rooms, one in which he works, the other in which he lives, Per travels in a special taxi, an older, longer model that allows him to position himself far from the electricity generated by the car motor. The driver even turns off the electric fare-meter.

About 50 other highly educated young technicians at Ellemtel experienced, in the late eighties, more or less serious symptoms of electromagnetic allergy while operating VDT's. Several had to take sick-leave. For this reason Ellemtel applied for and received 8.9 million Swedish kronor (1.25 million USD) from the State Working Life fund in order to investigate various methods of helping the electrically hypersensitive.

HE HAS LEARNED TO LIVE WITH HIS PROBLEM

Now everyone is back to work. Ellemtel even recently announced at a press conference that electrical hypersensitivity is no longer a problem at their company. But shortly after the press conference the TCO Newspaper met with Per Segerbäck in his workroom and found that even though he is back at work, the electrical hypersensitivity is still a considerable problem in his life. A problem he has been forced to live with.

Behind the iron sheeting surrounding his room is a layer of seamless, welded aluminium but it is still electrically difficult for him at one side of the room. "Since I moved in here I have had problems with this part of the room. A month ago they made some changes and it was found that some mistakes had been made with the grounding which caused magnetic fields. However, I did not know it at that time but only felt uncomfortable in that part of the room.

QUICK VISITS

Since Per Segerbäck is the head of a group of circuit designers he cannot remain in his shielded (electrically sanitized) room the whole time. He is required to make frequent visits to another room which is also electrically sanitized though not so extensively as his own. In this room, which is shielded with copper sheeting, are some of his electrically hypersensitive co-workers. It is impossible for Per to be in any other part of the building because remaining only two or three minutes in the corridors his skin begins to sting followed by a burning sensation like a bad sunburn. He also experiences great fatigue during which time, says he, "I only want to lie down and sleep."

Segerbäck's shielded room has its own entrance so he no longer has to pass through the building's corridors.

THE INJURED, SILENCED

There has been a great deal of secrecy around the Ellemtel Electrical Hypersensitivity project and it is known that the company has more or less silenced the injured. This does not seem to affect Per Segerbäck who speaks openly about his problems though present at the interview is administration manager, Torbjörn Jonsson, who heads the company's Electrical Hypersensitivity project report (due for publication June 30 1993).

As it developed, Jonsson and Segerbäck had never met to discuss Segerbäck's present condition and Jonsson is now informed that as soon as Per is exposed to the slightest amount of electricity he reacts with pain and his skin is sometimes so sensitive that he cannot stand the slightest touch.

A few days later we meet at Per Segerbäck's house in Vällingby where he lives with his wife and three children. The house looks like most houses except for a window on the top which has something that looks like bars. The bars are aluminium blinds on the window of the shielded room where Per lives. The room is shielded with 1100 lbs of iron sheeting containing silicone in two layers "screwed on with thousands of screws so there is no danger -- my wife was a bit afraid in the beginning that they should fall down...".

FRIDGE AND WASHER

Per can only spend very little time in the other part of his house which contains the fridge and washer etc. Explains Segerbäck: "the family must lead a reasonably normal life. It is bad enough the way it is".

Per Segerbäck has been to work earlier in the day and is rather tired after having been exposed to quite a lot of electric-magnetic fields but we speak for three hours about the events that led to this strange illness which came to change his and his family's life and for which no one has yet found a definite cure. He explains how electronics became his great interest, about his engineering degree and university studies in Uppsala and how his department head sent him to Silicon Valley in America to learn more about the construction of micro-processors. While in America he worked with semiconductor manufacturers. He was also one of the first in Sweden to use high-resolution colour VDT's from England. When these were installed he began to experience stinging and burning sensations in his face. "I had my first symptoms at the end of 1988 and at the beginning of 1989. They came at the end of the week after I had worked several hours at the VDT. When you like your job you spend more hours at it than you really should. I had not the faintest idea it could be harmful."

COULD NOT STAND THE CAR

The symptoms grew worse and soon Segerbäck discovered that he was also sensitive to fluorescent lights and to other kinds of electric machines besides VDT's. When, in the summer of 1989 he made a journey with his family, he discovered he was sensitive to the electromagnetic fields of the car. When he came back to work after his vacation he and his co-workers lined their VDT's with grounded aluminium foil. By now several others had the same problems. When Segerbäck, their manager, spoke of the problems he had struggled with, the others dared to tell of

their own problems. Says Segerbäck: "It was we, the enthusiasts who worked weekends, who got sick." "Were you stressed?" "Sure. We were in a rush, we were busy with two rather complex circuits and it was important that the job be finished quickly. But we are used to this and I, myself, find it only stimulating. We have had blood tests but we do not have higher than average levels of stress hormones. We are no more stressed than anyone else in this company.

In January, 1990, Per Segerbäck had had it. He reacted strongly to electrical environments, he burned and had red patches all over his body. He went on sick leave but he had no place to recover since he got sick in his own house too. This meant endless walks in the surrounding countryside near his house and spending nights in his car (with the ignition off!) "It sure was cold" he remembers but would rather not talk about this period. "I have repressed it" he says.

SLEPT IN CAMPER

The company doctor, Anders Bayard, was understanding and had compassion for Segerbäck as well as with the other electrically injured but neither he or anyone else could tell them how to be rid of their problems.

The Ellementel management now had to deal with problems they had never before experienced. The first measure was to park a camper made of aluminium outside Per Segerbäck's house so he would have an electrically-free place to sleep.

Yngre Hamnerius, at Chalmers Technical University in Gothenburg, was then called in to measure the electric-magnetic fields and the so called "vagabond" magnetic fields and Segerbäck's whole house was electrically "sanitized". After this, a similar rebuilding of his work room at Ellmentel was begun. It was finished in 1991 and Segerbäck moved in. Before that he had attempted to work in a worker's portable hut but that was not very successful perhaps because, he thinks, of several nearby subterranean electrical lines.

Today he uses an LCD overhead display unit which is placed in a metal, grounded box with a grounded Sunflex filter in front of it. An incandescent light bulb supplies the background lighting. This is a specially constructed VDT unit by Ellmentel. But Segerbäck still feels something he thinks might be high frequency signals from the electrical cable which runs from the computer which is about thirty feet away from his workroom and VDT. It makes no difference whether the VDT is on or not. The VDT itself does not give off any fields. "When my computer broke recently", said Segerbäck, "I had to use another which was temporarily placed closer than the ordinary one and I felt it right away. It means that there is a lot of direct radiation from the computer itself.

PAINFUL SKIN

Per Segerbäck's fatigue is apparent. He is rid of his light-sensitivity which plagued him two years ago -- it disappeared -- but his sensitivity to electricity remains. "My skin still hurts when I am exposed to electricity" he says, "It does not show in any other way except that I get blotchy red. It is terrible and hurts a lot more than it might appear to."

In spite of his difficulties Segerbäck has kept his enthusiasm. He plans to study by correspondence. How does his family take his electrical hypersensitivity? He replies: "My oldest

son, who is twelve, is often sad but Anna, two, has never experienced anything but my illness so she takes it naturally. When we are together she runs ahead and turns off electricity everywhere."

The Segerbäcks have considered applying for a local community subsidy to rebuild the rest of the house but they have been told that it is difficult to obtain such subsidies. The local communities refer to Federal precedents and usually deny applications. Those who appeal usually lose. The Housing Board has asked for guidelines and have been told that "Electromagnetic allergy does not exist today as a defined and limited illness from a traditional medical point of view." This argument is also used by other agencies when denying workers compensation claims.

ELECTRICAL SANITATION HELPS

Skin doctors Mats Berg and Sture Liden and stress researcher Bengt Arnetz, who participate in the Ellemtel project, have at various times recommended not to carry out electric sanitation (since they do not believe that electricity has anything to do with the problem. "But we technicians at Ellemtel know that electric sanitation is the only thing that helps" says Per Segerbäck.

Translation note: Electrical Sanitation means reducing electric and magnetic fields. Electric fields are reduced by using shielded and grounded wiring. Magnetic fields are very difficult to shield against. It is best for the affected person to move as far as possible from the source of the magnetic field. If this is not possible only the use of metal as described above will be effective.