



The Ross House Electrical Substation

Workcare compensation case, Melbourne Victoria, 1991-1992.

Workplace Chronic Fatigue Syndrome (CFS) symptoms attributed to exposure to electromagnetic fields (EMF) due to close proximity to an electrical substation

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EMFacts Consultancy

Extract Summary.

Sick Building Syndrome: 4 cases of chronic fatigue symptoms in one office directly above an electrical substation

Workcare Compensation Services, Melbourne Victoria, 1991-1992. The following is taken from the Workcare documentation for this case and interviews with the claimant on January 1999. The claim was for "Chronic tiredness "arising from excessive "exposure to high levels of electromagnetic radiation due to a substation located at place of work."

At the time of this case, the main woman involved (Mrs X) was 43 years old and had commenced working as a manager with a community services organisation in downtown Melbourne in September of 1989. In August 1990 she moved, with her assistant, into another office on the other side of the building which was located directly above a Melbourne electricity supply sub-station, located in the basement. Not long after moving into this office, she started to develop a feeling of general tiredness and also developed what she described as a cloudiness about the head and other health problems, such as bouts of depression and an overall lack of energy. At that stage she suspected that she may have been affected by a degree of stress due to a heavy workload. She was not overly worried by the condition at the time and thought it would improve with time. She did not relate her symptoms to anything to do with the sub-station. Importantly her assistant was also having similar health problems which only started after moving into the office.

In December 1990 she had a melanoma surgically removed from her left calf muscle. Following surgery she continued working but was still constantly tired. During the Christmas period of 1990, she took two weeks holiday break. During this period her condition improved slightly, but upon returning to work, the general washed-out feeling worsened with severe premenstrual tension. In February 1991 she developed a viral complaint and also an asthmatic condition as a consequence of that. She was prescribed Ventolin.

Shortly afterward she took a six week holiday and visited England and Holland. During this time the general tiredness improved slightly, although not to any significant degree but within three weeks of her returning to work all the conditions affecting her were back in full force. Various medical tests were conducted but nothing could be determined. In the following months there was no improvement and she believed her condition worsened to some degree. Her assistant also continued to suffer similar health problems.

In late September 1991, a computer was being installed in the office, but the technician advised the woman that the computer could not be installed due to a very high magnetic field in the room. As a consequence, it was decided to have some tests conducted to determine if there was a problem with electromagnetic fields within the office.

A consultant was called in and testing was conducted on October 16, 1991. Electromagnetic field readings indicated very high magnetic fields coming from the sub-station below the office. The average exposure was **31 mG** during the survey period. Peaks measured in the office area were **187 mG** at floor level and **94 mG** at desk level. In contrast her previous office at the other end of the building was only 0.7 to 1.5 mG. As a result of this the office was vacated in October 1991 after 15 months exposure to excessive EMFs. In late 1991 she attended the Peter McCallum Hospital due to soreness in her left leg in the region of the previously removed melanoma. There were two benign growths which were removed.

Her symptoms, which developed over the period of 15 months working in the effected office, were as follows:

- **Chronic tiredness/fatigue**
- **Insomnia:** waking around 3 am with an inability to go back to sleep
- **Stress**
- **Inability to concentrate**
- **Fluctuating hormone levels :** (estrogen/progesterone) diagnosed in November 1991
- **Anaemia:** diagnosed in November 1991 (low zinc levels also found) Iron tablets & vitamin C prescribed
- **A facial rash** which became apparent in August 1991
- **Depression**
- **Severe premenstrual tension.**

Her assistant who worked in the office also had similar health complaints but to a lesser extent, possibly because her desk was located in a lower field level and she only worked part time. The assistant's health complaints, as detailed in her written statement were:

- **Constant tiredness**
- **A feeling of listlessness**
- **Light headedness**
- **Insomnia**
- **Depression**
- **Severe premenstrual tension**
- **She described her overall feeling as, "a permanent severe case of jet lag"**

Upon moving into another office, the assistant's health gradually improved.

It is significant that most of the above symptoms are described in an occupational health and safety publication, published by the Swedish Union of Clerical and Technical Employees in Industry (Nov. 1996), as due to excessive electromagnetic field exposure in the workplace.

An earlier report by the Swedish National Institute of Occupational Health (1992) found similar health problems and additionally found "more than one employee in seven was hypersensitive to electrical fields."

(Both these publications are available from the addresses listed at the beginning of this paper)

As of January 1992 Mrs "X" reported some slight improvement in her condition and was still working for her employer in another part of the building. A medical report in May of 1992 found that she still had major symptoms of fatigue and a disturbed sleep cycle. This report concluded that her condition came under the broad category of Chronic Fatigue Syndrome (CFS). To quote from this medical report:

"In many of these [CFS] patients there is a susceptibility to a diverse range of environmental stressors. There are usually reasons for an exacerbation. The combined effects of a high EMF, other environmental factors and the ongoing stress of being unwell with no explanation can I believe create a fatigue syndrome. . . The mechanism by which [Mrs. "X"] is affected is unclear, though there is evidence to suggest that EMF can have profound effects on the central nervous system (CNS). One area of the CNS, the pineal, is more susceptible than other areas. It controls other areas of the body through the hypothalamus, which regulates rhythms and hormonal responses. This is of considerable importance in her case where abnormalities in this area have been documented."

As of January 1999 Mrs. "X" reports that it was well into 1993 before she had recovered her previous health but had developed various food allergies which she thought may have been a result of the high EMF exposure.

As part of the workers' compensation claim for this case, Workcare solicitors contacted two employees who had previously worked in the office in question. Quotes from their written statements are as follows:

A) A 45 year old female

"When I moved to _____, I was in good health and was very fit. Within a short period of time after moving to _____, my health deteriorated. I started to become listless. I developed headaches. I had trouble sleeping and became washed out. My abilities to cope with the job diminished. I couldn't concentrate. I was surprised at the way my health diminished. I couldn't understand what the problem was. In early 1989 I developed a viral infection which weakened me further. I attended my GP in the early part of 1989. He suggested I may have been affected by Chronic Fatigue Syndrome. . . I attended a naturopath, various forms of tablets/herbs [were prescribed]. Over the period of many months, I slowly improved. Every few weeks my health would go downhill for several days at a time. I lost regular time from my work which was unusual for me. There was no significant improvement to my health until I moved out of _____ in early 1990. Within a short space of time, I started to regain my energy. . . . I now enjoy good health and no longer suffer any of those health problems I experienced at _____ Some of the other girls (in fact everybody) I worked with in the same office developed similar health problems to myself, being chronically fatigued, listless and had trouble concentrating."

B) A 30 year old female

"I was in good health when I started at _____. I didn't have any history of ill health and was not prone to taking sick days. I was working full within the office. I can't be specific about dates, but for most the entire period of my working at _____, I was troubled by headaches, listlessness, an inability to concentrate for lengthy periods of times and I guess would be described as a washed out feeling. I had no idea what was causing the above. It was unusual for me to feel that way and there definitely was no history of same. Because of my general condition, I took sick days. I seemed more prone to any virus that was going around. I didn't seek medical treatment. Some of my colleagues were affected to varying degrees. We moved out in August 1990 for a number of reasons, part which related to our inability to cope with the overall work environment. As soon as I moved from _____ to 155 Lygon Street, my health started to improve. Within a few months of moving away from _____,

those conditions previously described ceased to affect me and I was back to the good health I'd been in before _____."

The office room in question remained vacant for about two years until the sub station was shielded for a cost of \$20,000. This measure greatly reduced the fields in the office space but still not to a level suitable for normal occupancy. It is now used for purposes where no one spends prolonged amounts of time in the area.

[Back to Main Page](#)