

## *Activists are convinced that electrical pollution is making us sick* By TERRY RINDFLEISCH / La Crosse Tribune 12-10-06

MINDORO, Wis. — Angela Olstad is convinced her school once harbored an unseen menace that made her so ill she was diagnosed with multiple sclerosis. Dirty electricity.

The Mindoro Elementary School principal and teacher said she was sick for three years while doctors struggled to pinpoint the cause.

"When I was diagnosed with MS, I thought at least I had an explanation for my symptoms," Olstad said.

By fall 2002, she thought she wouldn't be able to teach anymore. "I was hanging on for my dear life, and I was so desperate," she said.

Then Bob Hardie, Melrose-Mindoro School Board president, called in Dave Stetzer of Stetzer Electric in Blair, Wis.

Stetzer, known for testing farms for stray voltage, had been taking home readings as well for dirty electricity. Also referred to as electrical pollution, it is caused when currents of a higher frequency than what the wires can carry create electric fields Stetzer contends can harm humans.

Dirty electricity can be produced by fluorescent lights, computers and other electronics, Stetzer said.

He found it in wires at the elementary school, leading the school board in November 2002 to approve installing 100 of his high-frequency filters.

Staff were not told about the filters. But when they were in place, Olstad said, her health immediately improved. Within a few months, her MS symptoms went away.

"After the filters were put in, I was back in the world living," she said. "I haven't seen a doctor in four years for any medical problems."

Despite a growing number of similar stories, not everyone is as convinced as Olstad that dirty electricity exists.

The Public Service Commission of Wisconsin and Xcel Energy maintain no credible scientific evidence has been raised that suggests the electrical system in Wisconsin is unsafe or causes any health problems in humans.

But the PSC does recognize stray voltage — small amounts of electricity that leak from power lines or farm wiring, sometimes affecting livestock.

### **The debate**

"Dirty electricity has been a homegrown kind of movement," said Mark Cook, PSC senior manager. "The science community has not put its arms around this either, and it's hard to draft rules or guidelines, or to fix something, when we don't know what we're dealing with."

Cook said the PSC receives about a half-dozen dirty electricity complaints a year. Most problems have an electrical solution, he said. "We try to stick to the fundamentals of electricity, and usually there is an answer to the question of too much current," Cook said.

The PSC has one of the most comprehensive programs in the country for stray voltage,

he said, one that has helped reduce dairy livestock exposure by 75 percent.

While he contends the problem hasn't been defined, others were willing to explain what they considered to be dirty electricity.

Magda Havas, professor of environmental and resources studies at Trent University in Ontario, Canada, said dirty electricity is an electrical signal that deviates from a normal 60 hertz (cycles per second) sine wave.

"Dirty electricity is a ubiquitous pollutant that has been known to damage sensitive electronic equipment," Havas said. "Its effects on human health are just emerging."

Stetzer said dirty electricity refers to higher frequency electric currents than the power line frequencies, forming electrical fields that can cause currents to flow in humans.

"For some people with a hypersensitivity to electricity, it's like being in a microwave on low power," Stetzer said.

Modern technology, such as computers and other electronics, tends to produce these higher frequencies that are not filtered out.

"We're basically using 21st-century technology on 19th-century distribution lines," he said.

The 1972 oil embargo forced the U.S. to become more energy efficient, he said. Equipment is now being designed to operate using short pulses of current instead of continuous current.

"Most electrical loads were linear, operating on normal utility-supplied 60 hertz sine waves, but then with modern technology we had nonlinear loads," Stetzer said. "The neutral wire is now overloaded with modern technology."

### **The groundswell**

The only thing that had changed at Mindoro Elementary School in the past 10 to 15 years was the amount of technology and electronics, said Melrose-Mindoro Superintendent Ron Perry.

So the district bought into Stetzer's dirty electricity argument to the tune of \$17,000.

What happened next amazed Char Sbraggia, the district's nurse for more than 15 years.

Many of the school's 37 asthmatic students no longer needed nebulizer treatments to improve breathing. No asthmatics needed emergency treatment, she said, and all felt better and had more energy.

Students diagnosed with migraines had less trouble and teachers who complained of fatigue felt better, Sbraggia said. Absences and illnesses dropped.

"The big difference was in Angela," Sbraggia said. "She was one sick woman who suddenly was back to her healthy self."

The district put filters in all three of its buildings.

"The results were immediate," Perry said. "People felt less fatigued and quit getting headaches."

Perry said many people are skeptical when he talks about dirty electricity and filters.

"This worked for us," Perry said. "I'm not a scientist or a doctor, but I tend to believe there is something to it. It hasn't hurt putting the filters in. If we had not done this, we'd still be looking for a solution, and I would have lost some good teachers."

The district's experience has been chronicled in newspapers and magazines. And Sbraggia and others at Mindoro's school have since placed filters in their homes.

Dawn Rand, a teacher's aide, said she and her husband, Greg, got out of the dairy business because of poor milk prices and stray voltage. She and a daughter had migraines. Another daughter developed insulin-dependent diabetes.

"We didn't have a lot of health improvements until we put filters in our home," Rand said. "I was so happy when they put filters in at school."

Her 20-year-old daughter, Emily, installed the filters at college and reported fewer headaches and better control over blood sugar levels, Rand said.

"You can be skeptical, or don't think there is such a thing as electrical pollution, but we have experienced the difference," Rand said. "There is something to this, and we should get to the bottom of this."

Olstad, who also has filters in her home, sells filters in a side business, 2Care. She said she wants to help others who are sensitive to electricity.

"I know these filters gave me back my life, and people deserve to know about this," Olstad said.

Still, Olstad has to be careful where she goes such as church or the grocery store — buildings that are not filtered.

"But my life has still changed," she said. "I have to be very conscious of my environment all the time."

### **The solution**

While the problem could be fixed one house at a time, Stetzer said, an overall solution would be better.

He said utility companies can create a five-wire distribution system with two neutral wires to help resolve the problem.

"But you can't blame the utilities for everything," Stetzer said. "The solution to this problem requires a cooperative effort."

Consumers also need to reduce the amount of frequency they are putting on electrical wires, he said. Electronic manufacturers could install filters in equipment, as some other countries have insisted, Stetzer said.

"Politics is at the heart of this, when we have an engineering solution to an engineering problem, and people should not have to be hurt," Stetzer said. "Not much of this stuff is my opinion."

Engineers from Xcel declined to be interviewed for this story, but the company sent a statement by e-mail:

"Wisconsin utilities, including Xcel Energy, and the regulatory agencies that oversee the electrical system in the state, closely follow any research regarding the adequacy of the system and its potential impacts on human health.

"To date, there is no credible scientific evidence that suggests the electrical system used in Wisconsin is unsafe. Xcel Energy's engineers continue to monitor this issue. If there is evidence and a scientific consensus that some yet unknown aspect of the delivery or use of electrical energy is harmful, reasonable and responsible action will be taken."

Xcel officials also referred to a brochure, "Electricity and You," by the PSC and the Wisconsin Department of Agriculture, Trade and Consumer Protection. It states that congressional committees have determined exposure to electrical and magnetic fields is not a health hazard, and the American Physical Society has found no link between cancer and 60 hertz electrical and magnetic fields.

La Crosse physicians contacted about dirty electricity declined to be interviewed.

Stetzer said he has studies showing links between dirty electricity and health problems.

He said the World Health Organization has recognized the effects of dirty electricity, or what it calls "electronic fog." The WHO has been looking at electrical sensitivity as part of a larger investigation

into the health effects of electromagnetic fields, from power lines to cell phones, Stetzer said.

The WHO states exposure to electromagnetic fields represents "one of the most common and fastest-growing environmental influences, about which there is anxiety and speculation spreading."

Sweden recognizes electrical sensitivity as a physical impairment, Stetzer said. In 2005, Great Britain's Health Protection Agency acknowledged people can have nausea, headaches and muscle pains when exposed to electromagnetic fields from mobile phones and computers.

Legislation to require utilities clean up electrical pollution twice was introduced by state Rep. Barb Gronemus, D-Whitehall, but failed in committee both times.

Gronemus said she might again propose the legislation.

"Electrical pollution is still a problem, there's no doubt in my mind," Gronemus said. "The sooner the utilities fix the problem, the better off we'll be."

## **Researcher: Dirty electricity common in schools** **By TERRY RINDFLEISCH / La Crosse Tribune**

Some teachers and parents are convinced that dirty electricity could be the reason their schools have sick building syndrome.

Schools are tested for asbestos and other chemicals when a group of teachers or students get sick, but they are rarely tested for dirty electricity.

Magda Havas, a professor in environmental and resource studies at Canada's Trent University, said dirty electricity is a power quality problem that likely is present in most schools due to fluorescent lights, computers and other electronic equipment that generate electrical pollution.

Havas was asked to conduct a study in a Toronto private school for students with learning disabilities and found high levels of dirty electricity.

"I was unaware of studies showing dirty electricity was harmful to human health, and I was skeptical that filters would do anything," Havas said. "But after filtering the school, the health of teachers and students improved to my surprise. Student behavior improved especially in those with attention deficit disorder."

Havas repeated the study at three Minnesota schools in 2005 when a microsurge meter developed by Martin Graham at the University of California-Berkeley and Dave Stetzer of Blair, Wis., became available. The health of many teachers improved, as did the behavior of elementary students, she said.

She said the levels of dirty electricity in schools often are high due to outdated wiring and the large number of computers and other electronics.

"I am convinced that dirty electricity is contributing to the ill health of staff and students," Havas said. "Elementary-aged students are the most sensitive, and that this form of pollution may be significantly compromising the learning and working environment in schools."

Officials from the Wisconsin Education Association Council, the state's largest teachers union, met with Havas and Stetzer, who has measured dirty electricity and treated homes and buildings with filters.

Mike McNett, director of collective bargaining and research for WEAC, said he was personally interested and curious about dirty electricity because of complaints the union had received from some teachers.

McNett said finding unbiased information about dirty electricity is difficult, and WEAC could not reach a conclusion about the issue.

"We're not actively engaged in looking at it," he said. Teachers and staff who want to address dirty electricity could contact the council's legislative committee, he said.

The Bangor, Wis., school district decided to place filters in two school buildings during 2004 because some teachers and staff were concerned about dirty electricity. People had some health problems and concerns about dirty electricity and brought them to the school board, said Roger Foegen, superintendent of Bangor schools.

Foegen, who was high school principal at the time, said the filters didn't make a difference in absenteeism rates. "We couldn't find any trends or anything changed by the filters," he said.

Filters were installed at Blair-Taylor schools because Superintendent Guy Leavitt said staff were concerned about health problems and electronic equipment failures.

The number of children and employees with migraines was reduced after the installation, and electronic failures were nearly eliminated, Leavitt said.

"We realized savings in the thousands of dollars," he said.

He had been dealing with chronic back pain and saw a chiropractor regularly before the filters were installed. "I can count the number of times on my hand that I've seen a chiropractor since," Leavitt said. "I also put the filters in my home."

## *Women say electrical pollution made them sick*

*By TERRY RINDFLEISCH / La Crosse Tribune*

The science is only in its beginning stages, but the anecdotal evidence is easy to find. Here are a handful of stories from Wisconsin residents who say they didn't find relief from serious physical symptoms until they installed filters designed to mitigate electrical pollution.

### **Sue Kammel**

Sue Kammel was feverish, and her legs felt like wood. The 52-year-old La Crosse woman said she had a lot of pain at her nerve endings and was diagnosed with fibromyalgia.

"I always felt worse when I got up in the morning, and I was very tired," Kammel said.

She heard about dirty electricity and filters from a daughter's friend. Her house was tested with a meter that measures energy determined by the voltage and frequency. The readings were quite high, Kammel said. Kammel said she installed filters, and within a few days, she was feeling much better.

"I noticed a big change," she said. "My headaches have gone away, and I feel so much better. I can't understand it or explain it, but I'm better."

### **Linda Nelson**

Linda Nelson of Whitehall, Wis., thought she was affected by the fluorescent lights at her workplace.

"When I went to work, my brain went to mush," she said. She said she had trouble walking up and down steps due to pain in her knees. She also had back pain. So when she read about dirty electricity, Nelson put filters in her home in March.

Within three days, the pain in her knees and back was gone.

"I was kind of skeptical, but the filters made a big difference," Nelson said. "The best part was my husband and I were so foggy in our thinking at times, and we noticed a big change."

She had a hard time believing how much better she felt physically and mentally.

"I'm not pulling out my filters," she said.

Nelson said her diabetic mother put filters in her room at a nursing home in La Crescent, Minn., and saw improvement in her control of blood sugar.

She thinks dirty electricity has an impact on the body's nerve endings. Nelson notices that her symptoms return when she goes shopping. "It takes me a day to get back to normal," Nelson said. "I'm no longer skeptical, but it's a strange deal. I think people are skeptical because you can't see it."

### **Catherine Kleiber**

Catherine Kleiber of Waterloo, Wis., was sick for four years with chronic fatigue syndrome.

Kleiber thought she might have a problem with her electricity after reading about stray voltage. When she shut off her power, she noticed her symptoms would go away for two days. She started shutting off her power at night. "It was 100 percent noticeable, but I was not 100 percent well," she said. "Still it was marvelous, and I was ecstatic. I felt like I hit a brick wall when the power was on."

One night she said her husband forgot to shut off the power, and when she awoke in the morning she felt terrible again.

"I was not able to think, I couldn't read a book and follow across the page," Kleiber said. "I had trouble walking and doing my gardening."

So she installed filters in her home.

"The filters definitely helped, and I wouldn't be without them," she said. "The utility company doesn't want to fix the problem, and it has tried to convince me that I've been misled."

Kleiber has started a Web site about the problem, [www.electricalpollution.com](http://www.electricalpollution.com).

"As long as I'm at home and the power is not horrendous, I do OK," Kleiber said. "Even if this affects a small fraction of people, the effect on society is really huge."

### **Marcie Fry**

Marcie Fry woke up every day exhausted and slept all the time. The Madison woman said she had anxiety, chronic fatigue, headaches and body aches. "I had so many things wrong with me I couldn't get up in the morning," Fry said.

She said doctors didn't believe her. Fry had counseling, and her therapist didn't think she was depressed but that she had chronic fatigue syndrome.

Fry said she had high levels of dirty electricity in her home, so she had filters installed.

"I got better with the filters, but I didn't heal," Fry said. "I've become really concerned about this issue and the harm caused to people."

Fry said she testified about proposed state legislation introduced by State Rep. Barb Gronemus, D-Whitehall, to require utilities to fix the problem. The legislation was introduced twice by Gronemus but died in committee.

"There were so many devastating stories told at that hearing, but the committee never voted on it," Fry said.

Fry began a group, Moms with Meters, and she goes out to homes for free and measures dirty electricity. "I decided I had to do something, but there's only so much I can do," she said.

# Blair electrician sees problems in our power supply

By TERRY RINDFLEISCH / La Crosse Tribune 12-11-06

BLAIR, Wis. — Dave Stetzer had a good business going since opening Stetzer Electric in 1975.

But his entire business and life changed in 1998 when he began measuring for stray voltage at dairy farms. Dairy farmers were complaining it was affecting their cows.

"Stray voltage just took over my life, and I decided I needed to spend more of my time on it," Stetzer said.

Stetzer hooked up with Martin Graham, a retired University of California-Berkeley professor of electrical engineering and computer science, to study stray voltage.

He and Graham measured electrical levels and investigated power quality issues on more than 100 dairy farms, including many in the Coulee Region. They published a research paper that showed cows' milk production decreased as electrical activity increased.

An electronic technician in the U.S. Air Force, Stetzer wondered: If poor power affected cows, why wouldn't it affect humans?

So he began to research dirty electricity, and found studies linking electrical pollution to human health problems. He also started testing homes and schools and found high levels in many buildings.

Stetzer said modern technology such as computers and other electronics produce higher frequencies that are not filtered out and create electrical fields that can harm people sensitive to electricity.

"Some say where is the research?" Stetzer said. "I'm small, and I can come with 8,000 documents."

He said the symptoms of people sensitive to dirty electricity are similar to radio wave sickness that he had learned about in the military.

"The symptoms are so broad, and we heard so many far-out stories, but then we put in the filters, and the health of many people improved," Stetzer said. "This is all beyond coincidence."

The Public Service Commission of Wisconsin and Xcel Energy maintain no credible scientific evidence has been raised that suggests the electrical system in Wisconsin is unsafe or causes any health problems in humans.

Stetzer and Graham developed a filter, which filters the high frequency levels with a capacitor. Stetzer also created and patented the Stetzerizer Microsurge meter, which measures energy determined by the voltage and frequency.

The filters cost about \$30, and a typical home needs about 20 filters, Stetzer said. "We've seen amazing results with the filters, and we're helping to improve the health of people sensitive to this electrical pollution," he said.

Stetzer said some people have been critical of him for making money from the filters.

"Anyone can make their own filters, and I'll even show them," he said. "I'm not a technical genius in creating these filters. But I do know electricity, and measurement of it is my expertise."

Stetzer said he has given hundreds of presentations in the United States and all over the world. But he hasn't had much luck convincing government and utility officials that it is a major electrical and health issue.

Some months, he is out of the country more than he is home.

Stetzer says he has traveled to Canada, Russia, the Republic of Kazakhstan, China, Great Britain and Australia to help governments and scientists on dirty electricity projects.

"They are much more receptive and want to do something about the problem to protect the health of their people," Stetzer said.

Life would be easier, Stetzer said, if he had never started looking at stray voltage and electrical pollution.

"But then I get a letter or e-mail from someone helped by filters, and I have to keep going — even against the odds — because it's a common problem, and it's the right thing to do."

### **ABOUT RADIO WAVE SICKNESS**

People who claim they have electrical hypersensitivity and have been helped with filters to clear up "dirty electricity" have symptoms similar to radio wave sickness.

### **SYMPTOMS**

Neurological: Headaches, dizziness, nausea, difficulty concentrating, memory loss, irritability, depression, anxiety, insomnia, fatigue, weakness, numbness, tingling, muscle and joint pain, leg/foot pain, flu-like symptoms and fever, More severe reactions can include seizures, paralysis, psychosis and stroke.

Cardiac: Palpitations, arrhythmias, pain or pressure in the chest, shortness of breath, low or high blood pressure, slow or fast heart rate.

Respiratory: Sinusitis, bronchitis, pneumonia, asthma.

Dermatological: Skin rash, itching, burning and facial flushing.

Ophthalmologic: Pain or burning in the eyes, pressure in/behind the eyes, deteriorating vision, floaters, cataracts.

Others: Digestive problems, abdominal pain, enlarged thyroid, altered sugar metabolism, immune abnormalities.

### **COMMON SOURCES**

Outdoors: Broadcast and cell phone antennas, radar, cell phones, pagers and two-way radios.

Indoors: Cordless telephones and their base units, wireless computers, TVs, microwave ovens, dimmer switches, security systems, remote controls, fax machines and answering machines.

Vehicles: CB radios, ignition systems and mobile radar units.

Source: Magda Havas, professor of environmental and resource studies at Trent University in Canada.