

Electric and Magnetic Fields in an Almont Home, at School, and on Farms

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I received a telephone call from a young mother saying that she had four children and that their Almont, MI, school had installed 1,020 new I-Pads to replace textbooks in all grades in the Middle School and Almont High school. She is a graduate of LSSU, and a former employee of USFWS and Aquatics Research Laboratory in Sault Ste. Marie, MI. Her son was exposed to excessive amounts of radiation to his skull via x-rays and CAT scans when he was only 3 months old. She had purchased a new Tri-Field^R meter and wondered if I could help determine the EMF in the school area. I contacted several people whom I knew had interest in effects of Electric and Magnetic Fields (EMF) on the Health of People, and we decided to meet at a home that she determined was best to study. The home was located in Almont, MI, and had two routers for handling EMF coming into the home. The homemaker has three children; one child with a brain cancer in remission. She had arranged to have five I-Pads available that were compatible with the Schools EMF System and five Laptop Computers were also available on the dining-room table.

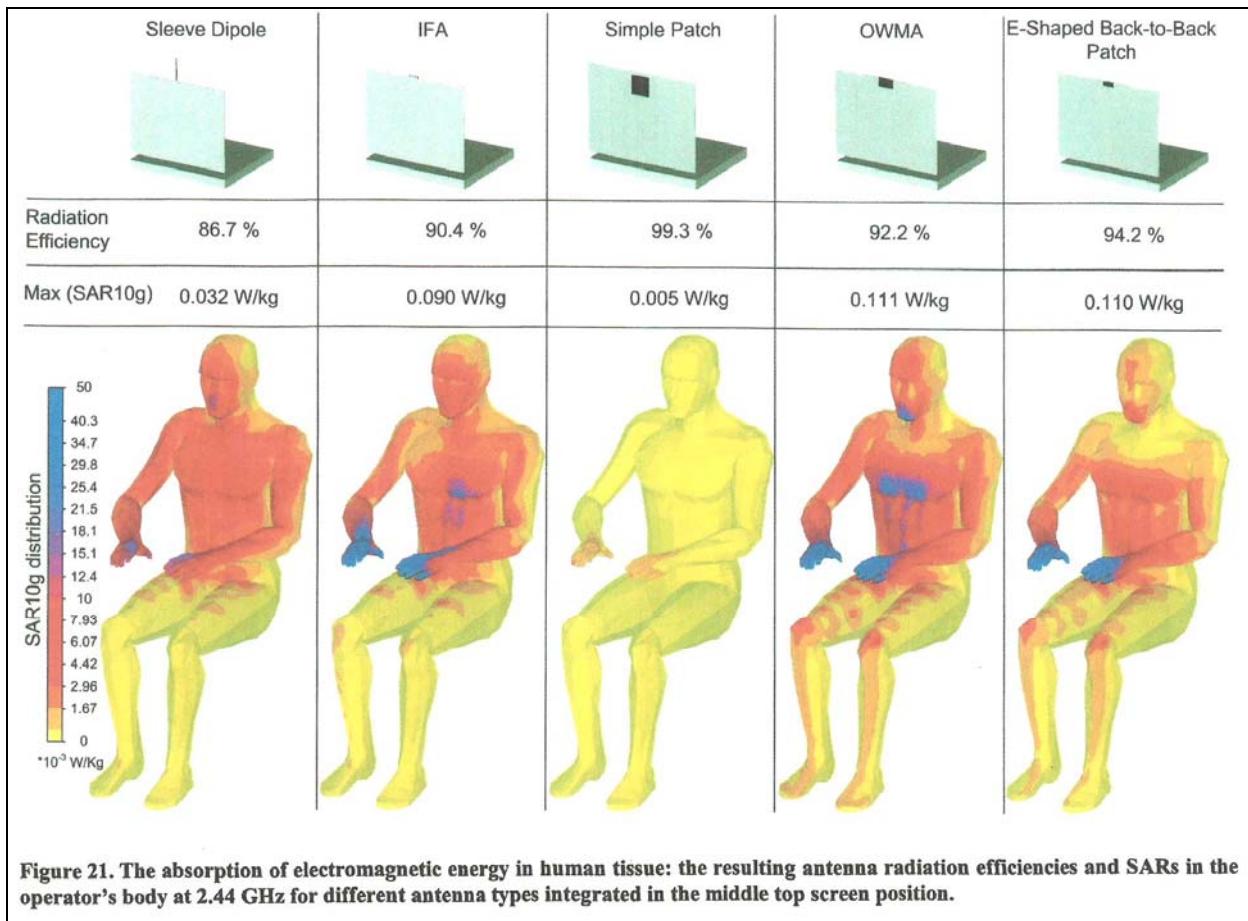
I began measuring the EMF transmitted by the **I-Pads** turned ON with the Tri-Field^R Meter. The Tri-Field registered 0.2 - 2.0 milliGauss (mG) situated in the center of the I-Pads.



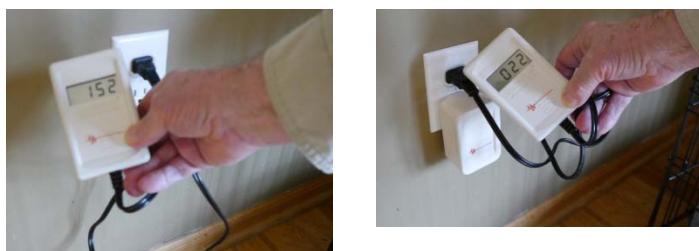
Sample devices measured – 2 Almont Community School iPads,
3 privately owned iPads, and 1 flip-top cell phone.

The 4 **Lap-top computers**, situated on the same table, each measured over 100 mG which was 100+ times too high. According to reports, 90% of the students own computers, but the school no longer supplies them.

Since the Laptop Computers measured over 100 mG, we thought it important to report the work of Guterman et al, at the University of California, Los Angeles, about Wrapped Microstrip Antennas for Laptop Computers, which shows the absorption of Watts/kg in human tissue.



When I plugged a Graham-Stetzer Microsurge meter into the wall outlet in the dining room: it



measured 152 Microsurges. That was high according to Dr. Martin Graham and Dave Stetzer who invented the patented device and stated that readings should be less than 30 microsurges. I plugged a Stetzerizer Filter into the same outlet and 22

Microsurges were measured by the G-S meter. That indicated that high frequency EMF was in the electrical circuit and could be eliminated by using several Stetzerizer filters in various outlets throughout the house where readings were greater than 30 microsurges.

Since most viewers are not familiar with the mathematics we will explain: (A person's Height: Feet tall x 0.3048 Meters/foot X .3048 = 0.0929 Square Meter per Foot). The measurement varies for different heights of persons as in Table 1.

Table 1. Meter Squared; Electromagnetic Exposure for People of Different Heights

Person Height, Ft.	Meters Ht.	Meter Square Ht. = M ²	Effect of mA on Person	
			1 mA/M ²	2 mA/M ²
6 Ft.	1.8288	3.3446	0.2989	0.5980
5 Ft.	1.5240	2.3225	0.4305	0.8611
4 Ft.	1.2192	1.4864	0.6727	1.3455
3 Ft.	0.9144	0.8361	1.1961	2.3920
2 Ft.	0.6096	0.3701	2.7019	5.4039
1 Ft.	0.3048	0.0929	10.7642	21.5285

Gauss, Karl Fredrick (1777-1855) German mathematician who developed the theory of MAGNETIC FIELDS and worked extensively on statistics, which remain world-wide.

Then, John Holeton began measuring with his HF 35C Frequency Analyzer. He first measured near the iPads and found 2000 microWatts/cm². That was equivalent to the 2 milliGauss measured earlier with the Tri-Field^R Meter.

One or 2 milliAmperes (mA), or **Work** at 2000 microWatts/CM², can cause damage to small children as illustrated by Mr. Holeton with the HF 35C Frequency Analyzer meter.

This meter measures in microWATTS/cm² which is ideal for field work since WATTS = Volts X Amperes = WORK.



Reading from flip-top cell phone when sending or receiving, 1928 microWatts/cm² pictured at 8". Measurements from the flip-top were generally over 2,000.



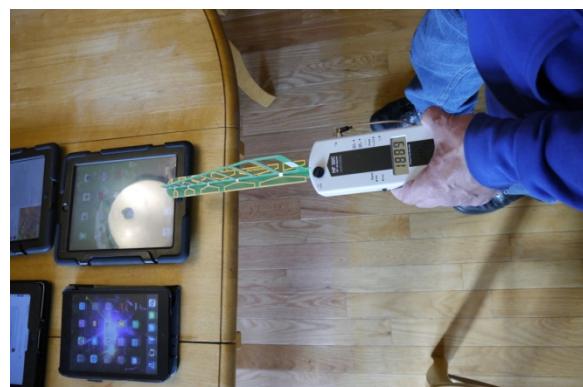
Reading from an Almont Community School (ACS) issued iPad while using the internet, 1446 microWatts/cm². Readings were over 2,000 for the majority of the sampling.

For AC or signal quantities, ROOT-MEAN-SQUARE values must be used, and any differences in phase expressed by a POWER FACTOR correction. Therefore, it is important to know that the instrument used is a True RMS Multimeter.

Average-responding and peak-value multimeters, do not measure the true rms value of a distorted sine wave. They sample values of the alternating current over a cycle, determine the average value of the sine wave, and convert it to effective amperes or rms amperes by multiplying the average value of the waveform by 1.414 (Sq. Rt.) if they use the averaging method, or 0.707 if they use the peak method. **Average-responding rms meters measure distorted waveforms with readings that are 25 to 50 percent below the actual rms values** (B. Kennedy, *Power Quality Primer*, McGraw-Hill, 2000. Pages 180-183).



Measuring 598 microWatts/cm² from an ACS issued iPad simply turned on.



2 ACS iPads, 3 privately owned iPads, 1 cell phone, and 1 smart phone simply turned on. Notice the cumulative effect without purposely accessing the WiFi. Reading 1889 microWatts/cm².



Reading of 004 microWatts/cm² which remained constant while walking along the sidewalk where classrooms are located outside of Orchard Primary School.

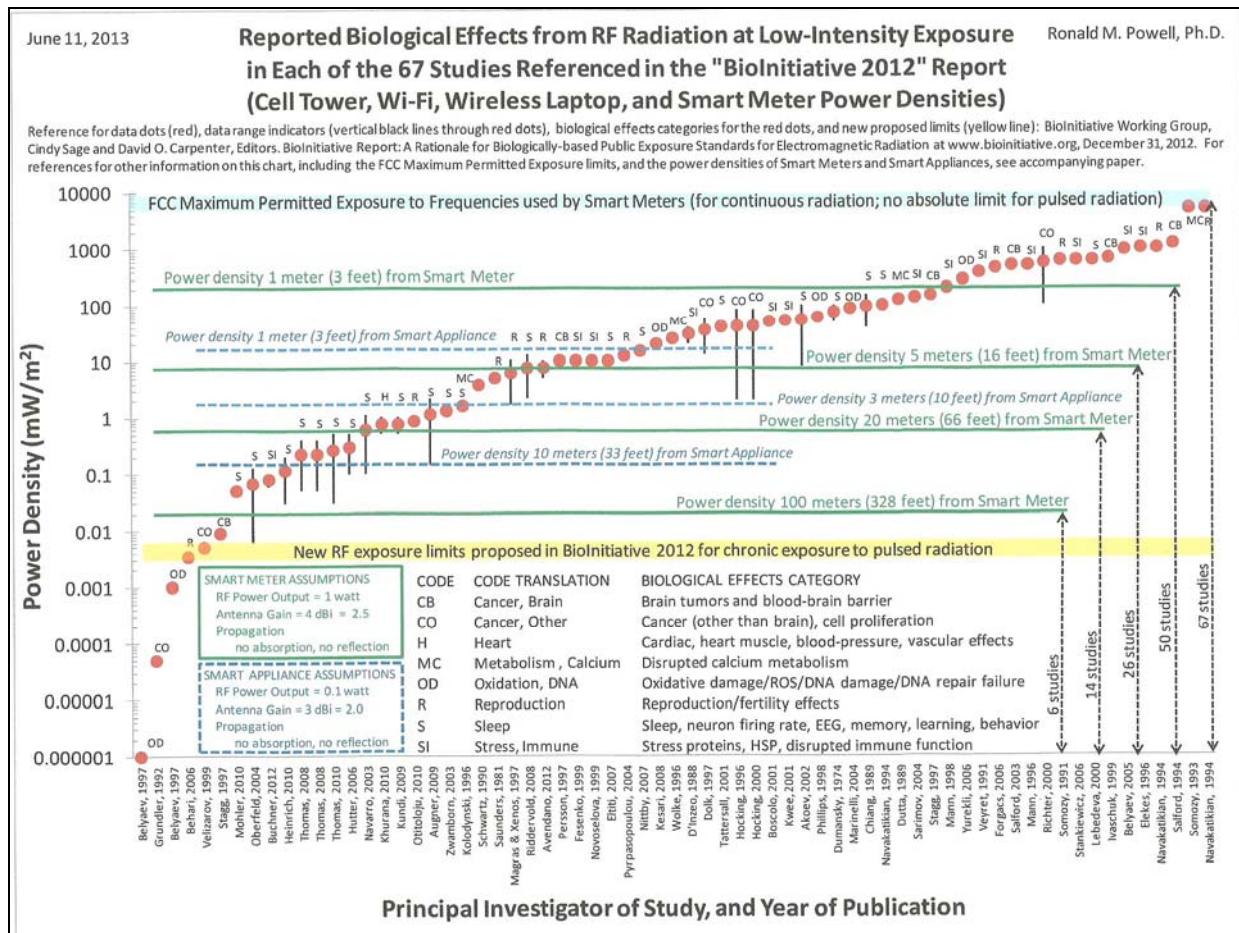


Reading of 029 microWatts/cm² near the main office of Orchard Primary School



Reading of 208 microWatts/cm² along the sidewalk where classrooms are located outside of Almont High School at 10:45, 9/30/2013.

Next is **The Biological Effects Chart**. Author Ronald M. Powell holds a Ph.D. from Harvard University (1975) and prepared the Chart in cooperation with Cindy Sage and Dr. David O. Carpenter MD, Editors, **Bioinitiative Report: A Rationale for Biologically-based Public Exposure Standards for Electromagnetic Radiation**, December 31, 2012 (<http://www.bioinitiative.org>).



We have studied Electric and Magnetic fields in other situations and found the following at John and Carol Szymanski Farm and Home at Argyle, MI in Sanilac County, we reported on July 31, 2013 as follows:

Report of Electrical Findings at the Farm and Home of John and Carol Szymanski, July 31, 2013

John Szymanski requested that we revisit his farm and bring an oscilloscope to confirm recent observations which he had made with a Fluke 79 III Voltmeter, a G-S Meter (Graham-Stetzer Microsurge Meter), and an Alpha Lab TriField Gauss Meter. We had found that Primary Neutral-to-Ground electricity on the premises was widely variable and was related to changes in milk production as we reported in communications with Attorney Dale Cubitt (6/17/2011, 12/07/2011, 1/9/2012, and 5/23/2013, plus a report of the Szymanski farm recorded by Dave Stetzer on 10/30/2012).

In a letter and report to Mr. Cubitt (March 8, 2012) from Dallas Braun, General Manager of Thumb Electric Cooperative, according to Mr. Braun, no extraneous cow contact voltage or current was found by TEC Engineering Technicians Allen Rutkowski and Brandon LeGault, Operations Supervisor. Mr. Braun apparently is unaware that the Power Monitors Inc., **one minute average** (page 1) at the animal contact locations is a faulty reading that measures nonsinusoidal distorted waveforms with 25-50% less voltage/current than True RMS meters, according to Barry Kennedy's *Power Quality Primer*. We will have the Engr Techs explain that method to the Judge and Jury. They will claim it is prescribed by MPSC Rules; and that is the problem. I am asking the Legislators to enter a bill to correct the MPSC Rules or to repeal them completely. Our finding of 30 mA in the water tank on June 13, 2011, was before any wires had been cut. The problem was already there. The cows were refusing to drink, the cows were down in milk, and many cows were already lost. We noted in that report that the Ronk Blocker failed to prevent the voltage surge from appearing on the Szymanski neutral wire when the neighbor started his silo unloader and other loads. The magnetic field (20-25 mG) under the lines near the houses was unsafe per OSHA in our report.

Mr. Szymanski reported that milk per cow per day had decreased from 71.7 to 52.4 pounds per cow per day at 150-day DHIA test-day average and cow numbers had decreased from 220 cows to 177 cows, with 67% of cows producing less than 40 pounds per day at Szymanski's farm where many cows have died. We had visited the farm home May 23, 2013, and observed that the Graham-Stetzer Microsurge readings in the kitchen and living room wall 120-V outlets were 180-190 G-S Units, high as reported by Stetzer and by us previously. So, we brought Stetzerizer filters to test the effect of installing the frequency filters at the highest outlets and to measure their effect on current released at the house, at the milking parlor, and in the cows' drinking water.

On July 31, 2013, we arrived at the farm at about 8:30 AM, while the farm crew was still milking. We used the Fluke 225c 200 MHz Oscilloscope, a G-S Meter, a Fluke 801-500s AC

Current Probe, a Craftsman clamp-on Ammeter (No. 82364), and an Alpha Lab, Inc., TriField Gauss Meter.

In preliminary testing without the filters we recorded 100-150 mV (millivolts) on the outside wall of the milk house and touching the milk tank on the outside of the milk house, using the Fluke 79 III Voltmeter. Using the G-S Meter we recorded 67 G-S units at the 60-Hz outlet in the milk house. Previously we had measured 966-1021 G-S units at the same location (5/23/2013). The Utility down ground at the pole was 80-90 mA (milliamperes) and 30-40 mA, while the copper-braid ground was 1.37-1.38 Amperes, and at the cows' drinking water tank we measured 10 mA, using the Craftsman clamp-on Ammeter. Under the wires next to the Road, at head height was 10-15 mG using the Alpha Lab, TriField meter. All of the above measurements were immediate while the milkers were operating. There was considerable variation in the electrical readings.

We measured Secondary N-G from the Electrical Distribution Box at the milk house as in Figures 1 and 2. Then, after replacing the oscilloscope leads with 100 feet of Ethernet Cable (BNC), we proceeded to measure voltage from the floor of the milking-parlor, and from the water tank from which the cows were expected to drink.

Figure 1 shows Secondary Incoming Voltage measured 0.1 Volt, with spikes accounting for additional 2.5 Volts.

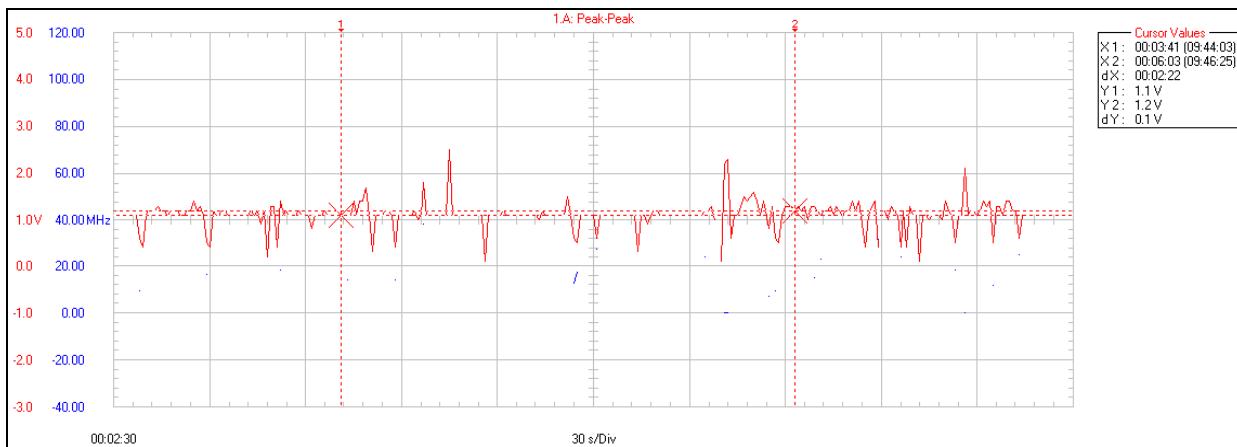


Figure 1. John Szymanski Farm: 0.1 V +/- 2.5 V spikes; Frequency = 40 MegaHertz (not 60 Hz) at Secondary Neutral-Ground Distribution Panel, Milker operating (9:48 a.m., 7/31/2013), Fluke 225c Oscilloscope reading.

Figure 2 shows an increase of Secondary Incoming Voltage -0.2 V plus 3.8 V spikes, and Frequencies equal to 20 MegaHertz, not the 60 Hertz as described by TEC, Inc.

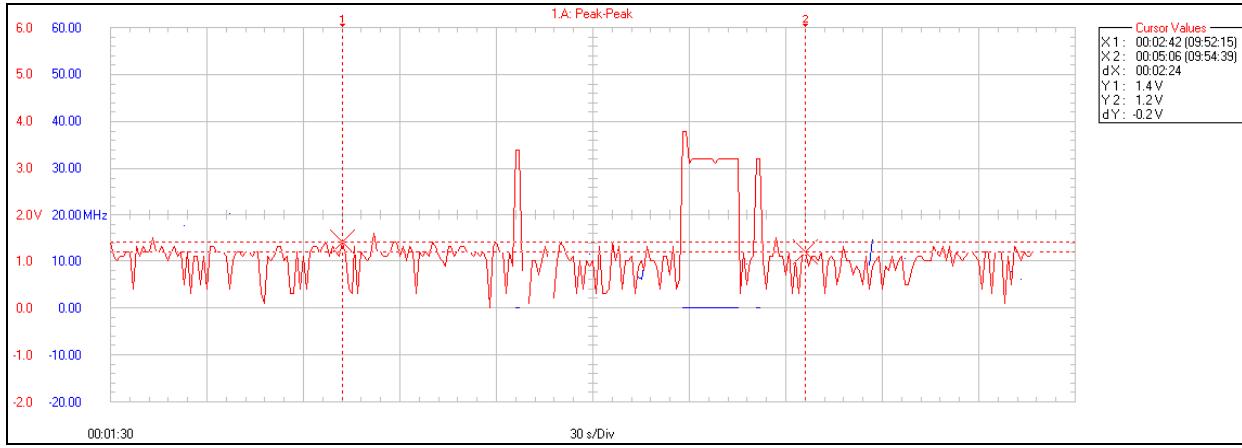


Figure 2. John Szymanski Dairy: 2nd reading Secondary-Ground Distribution Panel, 9:56 A.M., 7/31/2013. Voltage average -0.2 V + 3.8 V spikes; Frequency = 20 MegaHertz (not 60 Hz), Fluke 225c oscilloscope reading.

Figure 3 shows that Voltage was -0.1 V on the floor of the milking parlor and increased circa 6.0 V each of three times the milking machine pump was started.

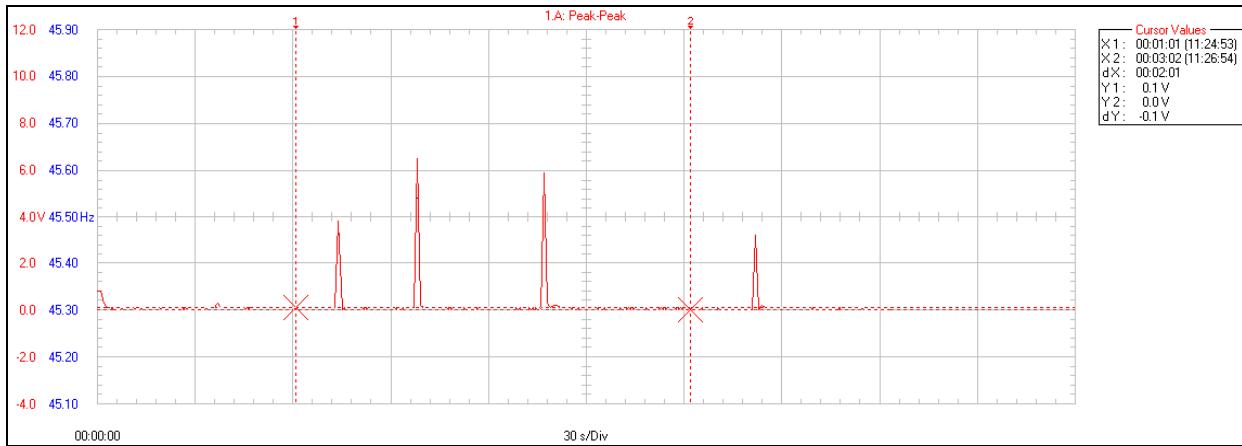


Figure 3. John Szymanski Dairy: Milking Parlor Floor – Cursor Value -0.1 V and spikes exceeding 6 V when the vacuum pump was turned on 3 times. Frequencies were abnormal as well (11:28 AM, 7/31/2013).

OUR EXPERIMENT

We installed Graham-Stetzer (G-S) Filters as necessary to reduce Frequency to less than 30 G-S units in each of the 120-V outlets in the House that exceeded 30 G-S units. These were on the north end of the west wall in the Living Room 325 G-S units and 92-95 G-S units at four other locations in the house, including the upstairs and to some outlets in the barn.

Figure 4 shows Voltage on Cows Drinking Water was 0.0 V at 10:56 AM, 7/31/2013. Frequency was returned to 60 Hz after installing G-S “Stetzerizer” filters in the “hot spots” identified in the house and some in the barn.

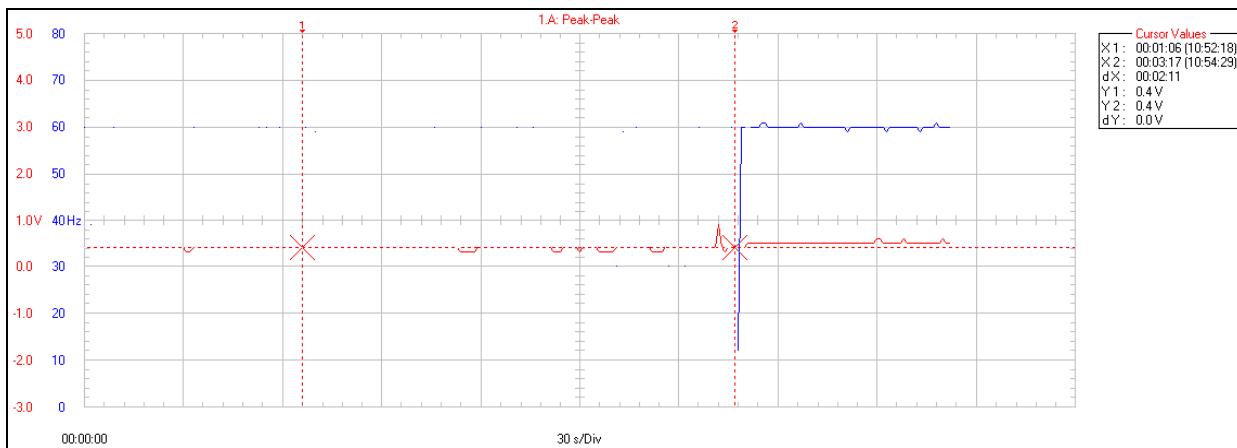


Figure 4. John Szymanski Dairy: Voltage on Cows' Drinking Water Tank was 0 V at 10:56 AM, 7/31/2013. Frequency was returned to 60 Hz after installing Graham-Stetzer (Stetzerizer) Filters at the house and barn. Note: Frequencies changed from about 11 to 60 Hz using Fluke 225c for measuring.

Figure 5 shows ZERO, 0.0 Voltage on Cows Drinking Water at 12:27 PM, 7/31/2013, after installing Graham-Stetzer (Stetzerizer) Filters at the house and elsewhere that registered greater than 30 G-S units of high-frequency electricity.

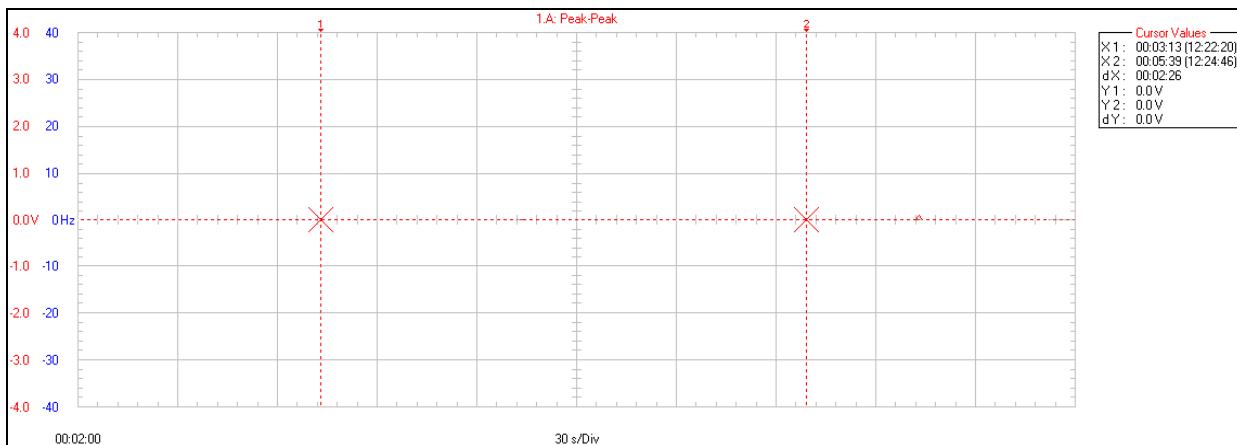


Figure 5. John Szymanski Dairy: Zero (0.0) V on Cows Drinking Water, 12:27 PM, 7/31/2013. After installing Graham-Stetzer (Stetzerizer) Filters at the house where Graham-Stetzer Microsurge Meters registered 384 to 89 G/S Units and at the barn where G/S Units had been recorded at 966-1021 previously.

Figure 6 shows a Black Light FLUORESCENCE in the cows' drinking water at Szymanski farm. It was photo copied from shining a Phillips 75 Watt 120 V Blacklight A19 into the water tank. While we attach no new significance to the observation, the fluorescence seen in the water was noted in a report by Emilio Del Giudice and Livio Giuliani in “Coherence in

water and the kT problem in living matter," Eur. J. Oncol. – Library Vol.5, Bologna, Italy, 2010.



Figure 6. John Szymanski Dairy: Photocopy of fluorescence in water from Blacklight pointed at the water.

DISCUSSION

Electrical readings at various locations at the farm and home decreased significantly after Graham-Stetzer filters were installed at all locations of 120-Volt outlets containing greater than 30 G-S units of microsurge electricity, mainly at the house and some at the barn. The change in G-S units had not been read by employees of Thumb Electric Company, and apparently are the only changes in electricity observed at the farm and home. Medical examination of Mr. Szymanski and other members of his family have revealed hypertension and other disturbances not readily explained.

Our finding is consistent with the finding of Verne Lanphear, who reported to the Michigan Public Service Commission in U-17000, # 236, that he had measured the radio frequency in a child's (now his step-grandchild's) play room from a 120-V outlet on the inside wall where a Smart Meter had been installed by Detroit Edison Co (DTE). Using a Graham-Stetzer meter he determined that the G-S units fluctuated between 462 and 691. In the child's bedroom next to the playroom, the readings were 660-771 GS units. The child became ill and her thyroid had become totally inactive according to medical authorities at Beaumont Medical Center in Detroit. Verne installed seven Graham-Stetzer filters throughout the house which reduced the G/S units to less than 30 at all locations in the house in Ferndale, MI. The Utilities' claim, that Smart Meter emission is not harmful to

humans and animals, is not valid. Photographs of the microsurge readings taken at the child's home before and after the filters were installed follows:



Readings before filters were installed.



Readings after filters were installed.

Verne had also measured the current with an Alpha Lab, Inc., Trifield Gauss Meter, at that time and the reading exceeded 100 mG (milliGauss). The child, who was suffering from thyroid deficiency, is now receiving thyroid medication and is greatly improved. Verne himself was involved in two Stray Voltage cases and is being treated for thyroid cancer.

The Verne Lanphear report was filed as an Affidavit in Oakland County Circuit Court by Donald Hillman in support of a complaint filed by Dominic and Lillian Cusumano relative to Smart Meters affecting Lillian's health. In testimony before the MPSC, DTE's only witness stated that he had never measured the energy disbursed by Smart Meters, and he was using what he had been told by others.

We investigated the source of EMF found at the Szymanski farm and home. A photograph of the Utility's entrance shows two services at the House, one for the main service and another smaller service that was intended for a water heater in the House. The first picture shows that the services are both analog meters.



The two services are connected by the single-ground service shown by the copper wire from the larger service in the picture. (See arrow). Both utility meters are analog meters which implies that the utility needs to find the cause of the high neutral current on the lines, since the installation has been the same since the house was built. All utility electrical services are connected at the neutral level, including the water heater at the milk house, other places in the barn, and the utility. The high neutral current measured with the Graham/Stetzer microsurge meter was not measured by the utility, TEC, Inc. The same applies to the Smart Meter readings made by Vern Lanphear near Detroit, and in Southwest Michigan.

Investigative Reporter, Carolyn Stetler wrote about **The Rise of Thyroid Cancer** in May 2009 (Investigative Reporting, American University School of Communication, Washington DC). She noted that Thyroid Cancer increased at a rate of 6.5% per year between 1997 and 2006, making it the fastest increasing cancer in the United States, according to National Cancer Institute (NCI) data. Medical authorities do not know the cause of increased thyroid cancer, according to Dr. Elain Ron, NCI.

Herbert Dahman et al, in Bioelectromagnetics 30:299-306. 2006, observed in a study of blood values of 132 self-perceived EHS (Electromagnetic Hypersensitivity) patients that the identified laboratory signs of TSH (thyroid dysfunction), liver dysfunction, and chronic inflammatory processes (AST/LST) were significantly different than those for 101 voluntary controls.

A study concerned with assessing the role of exposure to radio frequency radiation (RFR) emitted from either mobiles or base stations and its relations with human hormone profiles, published in the Canadian Society of Clinical Chemists and republished by Elsevier in 2011, showed significant decrease in volunteers' ACTH, cortisol, thyroid hormones, prolactin for young females, and testosterone levels.

Because we found high levels of electricity in the water at the Szymanski farm where the cows refused to drink, we searched the literature and found M. Zadin, a Russian scientist,

had studied and developed an interest in the effect of extremely weak magnetic field actions on water. His discovery reported in 2010 in **Non-Thermal Effects and Mechanism of Interaction between Electromagnetic Fields and Living Matter**, an ICEMS Monograph of the Ramazzini Institute edited by Livio Giuliani and Morando Soffritti in the European Journal of Oncology – Library Vol. 5, was that the fundamental physical mechanism of the resonant action of an extremely weak (40 nanoT) alternating magnetic field at the cyclotron frequency combined with a weak (40 mcT) static magnetic field, on living systems. His report was titled: **On Mechanism of Combined Extremely Weak Magnetic Action on Aqueous Solution of Amino Acids**. Others publishing in the Journal concluded: “Living organisms generally are complex systems where a huge number of molecular species interact within a large amount of water. All these components have, in these conditions, configurations quite different from the one assumed when they are isolated.”

Interestingly Zadin stated (in 1985) that 25 years earlier USA Profs Abraham Liboff, at Oakland University, Rochester, Michigan, and Carl Blackman, at the U.S. Department of EPA, had similar findings but had not tested the extremely weak magnetic fields.

As far back as 1957, Albert Szent-Gyorgyi¹ said that biologists were still unable to provide a formal definition of “animated matter” since they limited themselves to study biomolecules to the neglect of the two matrices without which biomolecules cannot perform any functions: water and electromagnetic fields (EMF).

As a matter of fact, by the middle of the last century it has been recognized that a thick layer of “Special water” appears on hydrophilic surfaces reaching a depth of several hundreds of microns.² The same result has been reproduced quite recently, in much more detailed way by the group led by Pollack.³ Since living matter is a dense assembly of macromolecules embedded in water, the ensemble of biomolecules constitutes a huge surface area hydrated by water, so that we can safely assume that biological water would assume the same properties of the “special water” existing near the hydrophilic surfaces. Consequently physical-chemical processes going on in living matter should be considered quite different from those occurring in diluted solutions.⁴

The main properties of this “*special water*,” named EZ water, are:

- a) EZ water excludes solutes: hence the name Exclusion Zone (EZ) for the region occupied by such water.
- b) Its viscosity is higher than viscosity of normal water
- c) It is an electron-donor, namely a reducer, whereas normal water is a mild oxidant: consequently the interface EZ-water/normal water is a redox pile, where the redox potential could have a jump of a fraction of a volt.
- d) EZ water exhibits a fluorescent response in the UV region at 2700 Angstroms.”

This report may help explain why Thumb Electricity Cooperative, Inc., at Ubly, Michigan, could not find the problem while using inadequate measuring equipment at Szymanski farm.

In addition, our discovery that TEC, Inc and the Michigan Public Service Commission were using meters that would not measure the high frequency current, should be corrected by the Governor. We found that none of four Electrical Contractors in Huron and Sanilac Counties were regularly using oscilloscopes in their business.

The cows' response will be vital to explaining the health and milk production of the dairy herd, and the many years of high-frequency electric current's effect on the personal health of his family and neighbors.

Several months or more may be required for the cows to return to nearly normal if the problem is corrected, according to experience of other dairymen where high frequency current caused destruction of the herd.⁵

CONCLUSIONS

Health and milk production of dairy cattle at the John and Carol Szymanski farm were related to the frequencies of Electric and Magnetic Fields found on the farm. Elimination of the fields by installing Graham-Stetzer Filters, filtered nearly all of the EMF. Some time will be required for the cattle to recover as experienced by other dairymen.⁵

REFERENCES

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- ⁵ Hillman D, Stetzer D, Graham M, Goeke CL, Mathson KE, VanHorn HH, and Wilcox CJ. Relationship of electric power quality to milk production of dairy herds – Field study with literature review. Elsevier, Science of the Total Environment 447 (2013) 500-514.

Our article, **Relationship of Electric Power Quality to Milk Production of Dairy Herds—Field study with literature review**, by D. Hillman, D. Stetzer, M. Graham, CL Goeke, KE Mathson, HH VanHorn, and CJ Wilcox was published by Elsevier, Science of the Total Environment 447 (2013) 500-514. It opened some eyes to what had been called “stray voltage” in other publications. We had shown that dairy herds in Wisconsin, Michigan, and Minnesota were affected by electricity. Dairy herds were sensitive to earth currents from neutral-ground circuit outlets, clamp-on ammeters on grounded-Y down grounds give quick current readings, harmonic distorted voltage affects cows' behavior, health, and milk production, peak-to-peak current must be measured for full impact of current on production and health, and IEEE standards should include harmonic current effects on human and animal health. IEEE began immediately to examine their policies for likely changes.

In Australia, CSIRO scientist, Dr. David McDonald had won compensation for Wi-Fi pain-- for crippling headaches, nausea and dizziness by using Wi-Fi and computers at work. Dr. McDonald, a mathematician who worked as a principal research scientist at the CSIRO for 15 years, has moved to the Victorian countryside to avoid electromagnetic radiation. He wears custom-made clothing fashioned with metallic cloth, has screened his house with metal shields and even sleeps in a special tent to screen out Wi-Fi transmissions in hotels.

Dr. Marie-Theresa Gibson resigned from Tangara School for Girls over Wi-Fi health worries. Dr. Gibson-- who served for 19 years as principal of the Tangara School for Girls at Cherrybrook—resigned in July due to health problems she blames on Wi-Fi installed three years ago. The school agreed to switch off the Wi-Fi in the administrative wing, but Dr. Gibson said she suffered debilitating headaches when she visited other parts of the school. She said, “I started getting strange headaches and tremendous fatigue, and I found I couldn’t think clearly. My thyroid is kaput and my body can’t make melatonin.” “Why should students be immersed in it for six or seven hours a day when they are using it for one?” she said. Dr. Gibson said she believed schools should cable computers, or install switches to shut down Wi-Fi when not in use (Natasha Bita, National Social Editor. News Limited Network, September 29, 2013).

Barrie Trower, a Consultant to Parliament in the UK, has written, September 2013: **Wi-Fi – A Thalidomide in the Making. Who Cares?** He states in his **ABSTRACT**: “As stated by University Researchers, Government Scientist and International Scientific Advisors; a minimum of 57.7% of schoolgirls exposed to low-level radiation (Wi-Fi) are at risk of suffering stillbirth, fetal abnormalities or genetically damaged children, when they give birth. Any genetic damage may pass to successive generations”.

Dr. Laura Pressley, Chemist, demonstrated that SMART Meters form “impulses for delivering radio waves every 25 seconds” on the David Knight TV show. She determined the rate of impulses by counting the twitches in her body at night. She had Mr. Larry Weiss from the Austin, TX Department of Electricity, come to witness her experience. He turned the Radio Transmitter of the Smart Meter OFF, and the Pulses stopped. He was surprised, and thought they only transmitted every 4-6 hours. John Holeton recorded a DVD, *Radio Frequency Disposed, Tim King and Dr. Pressley*, September 2013.

There are hundreds of other articles pointing out the problems with EMF, but few are listening.