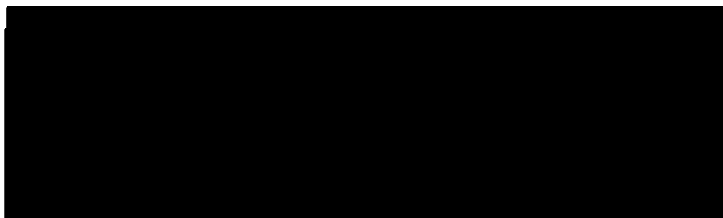


Q. Do you wish to add anything here not included in your statement in Exhibit A?

A.

Q. Do you want to submit the statements in Exhibit A to the Maine Public Utility Commission for consideration in its pending proceeding to investigate the safety of smart meters?

A. Yes. I submit the attached sworn testimony in support of complainants Ed Friedman, et al in their case before the Maine PUC as evidence that smart meters are not safe.



STATE OF MICHIGAN
WASHTENAW, ss

January 28, 2013

Personally appeared the above-named [REDACTED] and stated under oath that the foregoing Affidavit made by her is true and based upon her own personal knowledge, information or belief, and so far as upon information and belief, she believes the information to be true. Before me,

Kathleen A Mulligan

Notary Public

Kathleen A Mulligan

Name Typed or Printed

My Commission Expires:

11/28/14 9-21-14



1
2
3 **EXHIBIT A**
4
5
6
7

8 **STATE OF MICHIGAN**
9

10 **BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION**
11

12 In the matter of the application and request)
13 of the DETROIT EDISON COMPANY seeking)
14 approval and authority to implement its) **Case No U-17053**
15 proposed Advanced Metering Infrastructure)
16 opt out program.)
17
18
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20
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23

24 **QUALIFICATIONS AND DIRECT TESTIMONY OF**
25 
26
27

QUALIFICATIONS OF [REDACTED]

1 Q. Do you swear that the testimony you are about to give is the truth, the whole truth,
2 and nothing but the truth?

3 A. I do.

4 Q. Please state your name, address and contact information.

5 A. My name is [REDACTED]
6 [REDACTED]

7 Q. On whose behalf are you testifying?

8 A. That of Intervenors Linda Kurtz and Cynthia Edwards.

9 Q. What are your qualifications to testify?

10 A. I take my electric service from Detroit Edison. I have been affected by the smart meter
11 installation both in terms of my health and in terms of earning an income.

DIRECT TESTIMONY OF [REDACTED]

1 Q. What is the purpose of your testimony?

2 A. To provide information that establishes that there is a need for a no-fee opt-out and the
3 need for an analog meter option. To provide information that may help the Commission in
4 determining whether smart and digital meters create certain kinds of economic, medical,
5 social, or other harm or hardship, as outlined in Intervenor Linda Kurtz's Petition for
6 Intervention, to some or all persons such that Detroit Edison and the Commission must not
7 require those who are or who are likely to be so harmed to have a smart or digital meter
8 placed on their home or place of business or to be otherwise deprived of rights and liberties,
9 as outlined in Intervenor Kurtz's Petition for Intervention, by the deployment of the
10 advanced metering infrastructure, smart meters, or digital meters, and, in the alternative,
11 that such persons must be able to avoid such harm to their person and property without
12 being charged a fee.

13 Q. How long have you lived at your current residence?

14 A. I have lived in my home since 1981, for 31 years. I own my home.

15 Q. What do you do for a living?

16 A. I worked as a [REDACTED] for 18 years. For the past 13 years I have worked as a [REDACTED]

17 Q. When was a smart meter installed on your home?

18 A. July 18, 2012.

19 Q. Did you know it had been installed on your home?

20 A. No, I didn't. Later, when I couldn't sleep, I called DTE, and they told me the date it had been
21 installed.

22 Q. Something led you to call DTE. What was that?

23 A. Never in my life have I had a problem sleeping. "When my head hits the pillow," as the
24 saying goes, "I'm out like a light." But now I was lying awake for hours without falling
25 asleep, night after night. 12 am, 2 am, 4 am, I'm still awake! I wondered, "What's going on?"

26 I talked to a friend, telling him my dilemma, and he told me that the smart meters could
27 alter your sleep. "What are smart meters?" I asked. I had never heard of them.

28 Q. So prior to your conversation with your friend, you knew nothing about smart
29 meters?

30 A. No.

31 q. So you weren't anxious about smart meters and thus experiencing insomnia?

1 A. No. Like I said, I had never heard of them before. Like I said, my entire life, I have slept like a
2 rock—that is until a smart meters was installed on my home.

3 Q. **Prior to talking to your friend, did you know that a smart meter had been installed**
4 **on your home?**

5 A. No. I was never contacted or asked if this meter could go on my home. After I talked to my
6 friend, I went to look to see if a smart meter had been installed on my home. It had been. I
7 contacted DTE immediately, this was some time in August, asking them to take this meter
8 off my house. They said I was the first person to call and complain about the smart meter
9 causing any problems. The representative said she was sure I must have had problems
10 sleeping before.

11 Q. **What did DTE tell you they would do?**

12 A. They said they could not take the meter off my house and at this time there was no opt-out
13 program but they were working on it.

14 Q. **What did you do next?**

15 A. I continued to call and call and call them and said, "Please take this meter off my house. I
16 can't sleep, I can't work." I called at 3 a.m. one night when I couldn't sleep. Like the first
17 representative, this representative said he'd never heard of such a problem. I finally set up
18 a tent in my backyard, after weeks of not sleeping. I slept really well, not quite as well as
19 when I was sleeping in my own bed in my own home before I had a smart meter, but no one
20 sleeps quite as well in a tent as in their own bed. It has been very stormy and windy this
21 last month, and about three weeks ago the tent blew over on me at about 3 a.m. It covered
22 me so thoroughly, and was so heavy, I thought I was going to suffocate!

23 Q. **Did you continue to sleep in the tent?**

24 A. I moved back into my house because every time I set the tent up, it blew back down the
25 winds were so high. My nights are now sleepless.

26 Q. **Do you experience any other health problems or symptoms from the smart meter?**

27 A. At night, I lie there feeling a vibration going through all of my body and my ears ring loudly.
28 [REDACTED] is really hard work, and I wonder some days how I am going to make it. The
29 sleep deprivation makes me extremely fatigued and worn out. Day after day after day of
30 exhaustion has made me feel suicidal at times. I just don't know how I can keep going on! I
31 have felt such a fatigue and depression. This is totally affecting my personality and thus my
32 friendships and other relationships. This is affecting my productivity at work – I am so
33 tired! My memory has been affected – I will be talking to a person and totally go blank and
34 can't finish my sentence. I have pain in my body I haven't had before—I feel an achiness
35 around my joints. This has been progressive. In the last two days, I have begun feeling an
36 achiness around the vertebrae in my back.

1 I feel a physical agitation in my body. I work outside all day. I come home, and within a
2 couple hours, I feel so agitated in my body. When I was able to sleep in my tent, I would look
3 so forward to going outside. People would say, "[REDACTED] you can't sleep out there, it's so cold."
4 And I would be so happy because I didn't feel that agitation outside and I could sleep.

5 I experience ringing in my ears whenever I am in any building with a smart meter. At one
6 client's house, the ringing in my ears was so loud I couldn't believe it. Buildings with
7 fluorescent lights are particularly bad.

8 **Q. How do you know it is smart meters that are affecting your health?**

9 A. I know because I never had a problem before smart meters.

10 **Q. Did you have any health problems prior to the installation of smart meters? If so,**
11 **what were they and when did they begin?**

12 A. Hypothyroidism. This was diagnosed about twelve years ago.

13 **Q. Does this cause fatigue?**

14 A. No, because I take medication for it.

15 **Q. So could this be what is causing you to have trouble sleeping at night?**

16 A. No, because I never have had trouble sleeping, that is, not until the smart meters were
17 installed. The fatigue was caused by the hypothyroidism, not by lack of sleep.

18 **Q. Any other health conditions?**

19 A. I feel like some asthma, though it's never been diagnosed.

20 **Q. Have you had sensitivity to any other electrical or wireless devices other than smart**
21 **meters?**

22 A. Yes. I am extremely affected by my cell phone. I feel agitated when I am using it, and I have
23 ever since I got it five years ago. I have started to use the speaker phone rather than hold
24 the phone against my ear. That helps slightly.

25 **Q. You said you have contemplated suicide after experiencing day after day of unending**
26 **fatigue since smart meter installation. Have you every contemplated suicide prior to**
27 **this?**

28 A. Never. Definitely never. But after I was so exhausted after not sleeping for days, I was
29 going to work one day, completely exhausted. I thought, "How can anyone go on day after
30 day like this without sleeping?" I thought, "Now I know why people think about suicide.
31 People that don't sleep, how do they keep on going?"

32 **Q. Have the health effects you experience as a result of smart meters affected your**
33 **ability to work and earn a living? If the answer is yes, describe how.**

1 A. I have been late for work because I have needed to try to rest—I guess I can't really call it
2 sleep anymore. I've never actually missed work, but I have been late for work. My
3 productivity is less. I've never been late for work in the past.

4 **Q. Have the health effects you experience as a result of smart meters affected your**
5 **ability to interact socially with others? If the answer is yes, describe how.**

6 A. Yes. When you are so tired, you don't even want to socialize with anyone. I feel angry, so
7 fatigued. All I think about is sleeping.

8 It's negatively affected my most intimate relationship in the last few months. It's had a huge
9 impact. The lack of sleep has made me so fatigued and angry, and it's hard to love someone
10 when you feel that way.

11 **Q. Have the health effects you experience as a result of smart meters affected your**
12 **ability to access public services, such as the public library, government offices? If the**
13 **answer is yes, describe how.**

14 A. Yes, because going into any building with a smart meter, I feel agitated.

15 **Q. Have the health effects you experience as a result of smart meters affected your**
16 **ability to freely assemble outside? If the answer is yes, describe how.**

17 A. No.

18 **Q. Have the health effects you experience as a result of smart meters affected your**
19 **ability to access religious or spiritual services? If the answer is yes, describe how.**

20 A. My spiritual life is outside, so no, it hasn't.

21 **Q. Have the health effects you experience as a result of smart meters affected your**
22 **ability to freely access health services? If the answer is yes, describe how.**

23 A. No, but I haven't been to any health-care facility since smart meters were installed, except
24 for the UM, where they don't have smart meters. Given how I react in buildings with smart
25 meters, I expect that it will affect me once I do need to see a health-care professional who is
26 in a building with smart meters.

27 **Q. Have the health effects you experience as a result of smart meters affected your**
28 **ability to perform one or more major life activities not already mentioned? If the**
29 **answer is yes, describe what activities and how the effects have affected your**
30 **performance of these activities.**

31 A. Interacting with others. Reading, because I get so agitated in my body and I can't
32 concentrated. I used to love to read, and I kept wondering, "Why can't I read now." Inability
33 to think, concentrate, comprehend. Sleeping, obviously. Performing manual tasks because
34 being in the house is so hard—how can I clean my house, wash my dishes, etc when I just
35 need to get out of my house.

1 As far as physical labor goes, I am more tired, it's harder to be productive.

2 Breathing—it has been harder for me to breathe in the house. I have asthma.

3 My memory is a lot worse. I have to write everything down now. My son keeps telling me,
4 “Mom, I told you that yesterday.”

5 **Q. Has your ability to live in your home been affected by the installation of smart**
6 **meters?**

7 **A.** Totally. I think that has been covered.

8 **Q. Is there anything else you wish to say about how smart meters have affected your**
9 **health and/or your life?**

10 **A.** Yes. My sixteen-year-old son, [REDACTED] sleeps a couple feet away from the meter. He has
11 juvenile diabetes. We just went to see his endocrinologist, Dr. [REDACTED] at the University of
12 Michigan Medical Center's Hospital on November 1. He's been going there for 2 years, since
13 his diagnosis when he was 14. There is this number called A1c. There's this blood test they
14 give the kids called A1C. It's a blood test that shows what his blood sugars combined were
15 for the last three months. His numbers were always below 7. His last appointment, they
16 were 6.8. [Exhibit 1.] The doctors have always been so happy because they want these
17 numbers to always be below 7.

18 I have [REDACTED] on a very clean, organic diet and he exercises playing hockey and lacrosse, all of
19 which help keep his blood sugars at a good level. On November 1, his A1c was taken, and the
20 level had shot up to 9.5. [Exhibit 1.] The doctor if anything had changed as far as his diet
21 and exercise. Nothing had. It's very clear that his blood sugar levels have shot up because of
22 the smart meters. Nothing else in his life has changed, and the levels have been consistent
23 for two years. There's no other explanation. When levels are above 7, it wreaks havoc on the
24 body. Many things can happen to the body, to his limbs, to his organ.

25 Dr. [REDACTED] has sent a letter to DTE describing her findings and stating that the smart meter
26 needs to be taken off the home.

27 From a *Prevention Magazine* article that I read, I have learned that the EMFs emitted by
28 smart meters can elevate blood sugar levels. They discussed work by Dr. Magda Havas of
29 Trent University, whose research has shown that voltage transients can elevate blood sugar
30 levels of diabetics. [Attached as Exhibit 2. Pertinent area is on page 6 of Exhibit 2,
31 highlighted in yellow.]

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application and request)

of the DETROIT EDISON COMPANY seeking)

approval and authority to implement its)

Case No U-17053

proposed Advanced Metering Infrastructure)

opt out program.)

EXHIBITS OF



EXHIBIT 1

001/006

Printed 11/8/12 4:03 PM

11/1/2012 8:00 AM Office Visit
MRN: 040245480

Description: 16 year old male
Provider: [REDACTED]
Department: Mh Ped Endocrinology

Diagnoses	Reason for Visit
Diabetes mellitus - Primary 280.00 Long-term insulin use V58.67	Diabetes Mellitus

Vitals - Last Recorded

BP	Pulse	Temp(Src)	Ht	Wt	BMI
114/61	58	97.7 °F (36.5 °C) (Oral)	1.816 m (5' 11.5")	68.8 kg (151 lb 10.8 oz)	20.86 kg/m2

Progress Notes

MD 11/5/2012 8:38 AM Signed

[REDACTED] is a 16 year 10 month old boy who is seen in Pediatric Diabetes Clinic for follow-up of Type I diabetes. He was diagnosed with Type I diabetes in May 2010. He is accompanied by his mother.

MEDICATIONS:

Lantus 22 units at bedtime
Novolog: Insulin/Carb ratio 1:13 for breakfast, lunch, and dinner
correction 1:100>150 at breakfast and lunch

Other relevant medications: None

INTERVAL HISTORY: No interim illness. Over the summer they attended an intro to pump class. He said he was interested in the pump but never completed the workbook. They did not bring blood sugar log to review. He reports checking 3-4 times/day. He states that he has low BG in the 70's after hockey practice in the afternoon. He treats these with power bars, and we discussed the need for him to have a fast acting sugar with him. He will not have any periods where he is not in a sport from this point. He has is not driving often. Mother is very concerned that a smart meter placed on their home by the utility company over the summer has caused a worsening of his BS.

History of severe hypoglycemia: No.

History of significant # of (non-severe) hypoglycemic episodes: non-reported 2-3 per week.

Occasional 50-60 after hockey practice. He feels shaky and has a granola bar.

History of DKA: None since diagnosis

History of DM related hospital admission: None since diagnosis

REVIEW OF SYSTEMS:

10 systems reviewed: Yes reviewed 10/14 see pediatric diabetes outpatient note imaged document.

SOCIAL HISTORY: Parents are divorced. Both brothers are away at college. He is in 11th grade. Active in hockey and LaCrosse.

PHYSICAL EXAMINATION:

BP 114/61 Pulse 58 Temp(Src) 97.7 °F (36.5 °C) (Oral) Ht 1.816 m (82%) Wt 68.8 kg (64%)
BMI 20.86 kg/m2 (44%)

In no acute distress.

External ears and canals are normal.

Nasopharynx is patent.

Printed 11/8/2012 4:08:51 PM

Page 1 of 6

Oropharynx has moist mucous membranes and no lesions.
 Neck is supple; no lymphadenopathy or masses. Mildly enlarged thyroid with normal texture.
 Heart has a regular rate and rhythm, without significant murmur.
 Lungs are clear to auscultation; no wheezes or rhonchi.
 Abdomen has positive bowel sounds. It is soft and nontender, without organomegaly or masses.
 Extremities are warm and dry, without abnormalities.
 Normal tone, bulk, and strength.
 Acanthosis nigricans : No
 Lipodystrophy at injection sites : Yes, left abdomen
 Feet Examination - examined : no

A1c: Previous 6.8% Today 9.6%

ASSESSMENT AND PLAN:

Diagnosis - Type 1 diabetes mellitus - worsening control.

1. Insulin Dose Adjustments: Since his A1c has worsened and he reports normal BS, we will increase his lantus dose to 24 units. We discussed with him the importance of diligent diabetes care and his A1c goal. Mother was concerned that the worsening was due to the smart meter. We also discussed that he may be finishing his honeymoon period. We instructed them to fax in BS in 2 weeks so that further dose adjustments can be made. He had annual labs drawn today.

Lantus 24 units at bedtime
 Novolog: Insulin/Carb ratio 1:13 for breakfast, lunch, and dinner
 correction 1:100>150 at breakfast and lunch

2. Follow-up in 3 months.

Blood Sugar Monitoring Goals
 At least 4-6 times daily, including before hockey

HbA1C Goal
 <7.5%

Nutritional Goals
 Well-balanced, healthy meals

Behavioral / Educational Goals
 Record glucose on logs once weekly

Counseled parents/patient on:
 Importance of controlling BG
 ADA goal of A1c<7.5%
 Risks of NOT monitoring BG
 Importance of recording/reviewing BG
 Sx, tx, prevention and risk of hyperglycemia
 Sx, tx, prevention and risk of hypoglycemia
 Carb Counting
 Site rotation
 Parents involvement in diabetes care

EXHIBIT 2

Prevention Magazine Article

<http://www.prevention.com/health/healthy-living/electromagnetic-fields-and-your-health>

Is Dirty Electricity Making You Sick?

Why Are Electromagnetic Fields Dangerous?

Several developments have highlighted the growing hazards of EMF pollution—and the crucial need to address them.

A report that cited more than 2,000 studies found that chronic exposure to even low-level radiation (like that from cell phones) can cause a variety of cancers, impair immunity, and contribute to Alzheimer's disease and dementia, heart disease, and many other ailments. One likely way: EMFs open the blood-brain barrier, causing blood vessels to leak fluid into the brain and damage neurons.

What's more, a less-well known kind of EMF, known as "dirty" or transient electricity, may play an even more damaging role. Transients are largely by-products of modern energy-efficient electronics and appliances—from computers, refrigerators, and plasma TVs to compact fluorescent lightbulbs and dimmer switches—which tamp down the electricity they use. This manipulation of current creates a wildly fluctuating and potentially dangerous electromagnetic field that essentially charges up the electrons in every cell of your body. Some research suggests that by overlapping the body's signaling mechanisms, transients may interfere with the secretion of insulin, drown out the call and response of the immune system, and cause other physical havoc.

For more information on the dangers of electromagnetic fields, [read our full investigative report here](#). (below)

Is Dirty Electricity Making You Sick?

Too many electromagnetic fields surrounding us—from cell phones, wifi, and commonplace modern technology—may be seriously harming our health. Here's how to minimize your exposure.

Read more: <http://www.prevention.com/health/healthy-living/electromagnetic-fields-and-your-health#ixzz22iCT1oED>

The California Cluster

IN 1990, the city of La Quinta, CA, proudly opened the doors of its sparkling new middle school. Gayle Cohen, then a sixth-grade teacher, recalls the sense of excitement everyone felt: "We had been

in temporary facilities for 2 years, and the change was exhilarating." But the glow soon dimmed. One teacher developed vague symptoms-- weakness, dizziness--and didn't return after the Christmas break. A couple of years later, another developed cancer and died; the teacher who took over his classroom was later diagnosed with throat cancer. More instructors continued to fall ill, and then, in 2003, on her 50th birthday, Cohen received her own bad news: breast cancer. "That's when I sat down with another teacher, and we remarked on all the cancers we'd seen," she says. "We immediately thought of a dozen colleagues who had either gotten sick or passed away." By 2005, 16 staffers among the 137 who'd worked at the new school had been diagnosed with 18 cancers, a ratio nearly 3 times the expected number. Nor were the children spared: About a dozen cancers have been detected so far among former students. A couple of them have died.

Prior to undergoing her first chemotherapy treatment, Cohen approached the school principal, who eventually went to district officials for an investigation. A local newspaper article about the possible disease cluster caught the attention of Sam Milham, MD, a widely traveled epidemiologist who has investigated hundreds of environmental and occupational illnesses and published dozens of peer-reviewed papers on his findings. For the past 30 years, he has trained much of his focus on the potential hazards of electromagnetic fields (EMFs)--the radiation that surrounds all electrical appliances and devices, power lines, and home wiring and is emitted by communications devices, including cell phones and radio, TV, and WiFi transmitters. His work has led him, along with an increasingly alarmed army of international scientists, to a controversial conclusion: The "electrosmog" that first began developing with the rollout of the electrical grid a century ago and now envelops every inhabitant of Earth is responsible for many of the diseases that impair--or kill--us.

Milham was especially interested in measuring the ambient levels of a particular kind of EMF, a relatively new suspected carcinogen known as high-frequency voltage transients, or "dirty electricity." Transients are largely by-products of modern energy-efficient electronics and appliances--from computers, refrigerators, and plasma TVs to compact fluorescent lightbulbs and dimmer switches--which tamp down the electricity they use. This manipulation of current creates a wildly fluctuating and potentially dangerous electromagnetic field that not only radiates into the immediate environment but also can back up along home or office wiring all the way to the utility, infecting every energy customer in between. With Cohen's help, Milham entered the school after hours one day to take readings. Astonishingly, in some classrooms he found the surges of transient pollution exceeded his meter's ability to gauge them. His preliminary findings prompted the teachers to file a complaint with the Occupational Safety and Health Administration, which in turn ordered a full investigation by the California Department of Health Care Services.

The final analysis, reported by Milham and his colleague, L. Lloyd Morgan, in 2008 in the *American Journal of Industrial Medicine*: Cumulative exposure to transients in the school increased the likelihood a teacher would develop cancer by 64%. A single year of working in the building raised risk by 21%. The teachers' chances of developing melanoma, thyroid cancer, and uterine cancer

were particularly high, as great as 13 times the average. Although not included in the tabulations, the risks for young students were probably even greater.

"In the decades-long debate about whether EMFs are harmful," says Milham, "it looks like transients could be the smoking gun."

The Case against EMFs

Cancer and Electricity--could a disease whose cause has long eluded scientists be linked to perhaps the greatest practical discovery of the modern era? For 50 years, researchers who have tried to tie one to the other have been routinely dismissed by a variety of skeptics, from congressional investigators to powerful interest groups--most prominently electric utilities, cell phone manufacturers, and WiFi providers, which have repeatedly cited their own data showing the linkage to be "weak and inconsistent." Recently, however, in addition to the stunning new investigations into dirty electricity (which we'll return to), several developments have highlighted the growing hazards of EMF pollution--and the crucial need to address them.

The Evidence showing harm is overwhelming.

In 2007, the Bioinitiative Working Group, an international collaboration of prestigious scientists and public health policy experts from the United States, Sweden, Denmark, Austria, and China, released a 650-page report citing more than 2,000 studies (many very recent) that detail the toxic effects of EMFs from all sources. Chronic exposure to even low-level radiation (like that from cell phones), the scientists concluded, can cause a variety of cancers, impair immunity, and contribute to Alzheimer's disease and dementia, heart disease, and many other ailments. "We now have a critical mass of evidence, and it gets stronger every day," says David Carpenter, MD, director of the Institute for Health and the Environment at the University at Albany and coauthor of the public-health chapters of the Bioinitiative report.

Fears about the hazards of cell phones seem justified.

"Every single study of brain tumors that looks at 10 or more years of use shows an increased risk of brain cancer," says Cindy Sage, MA, coeditor of the report. A recent study from Sweden is particularly frightening, suggesting that if you started using a cell phone as a teen, you have a 5 times greater risk of brain cancer than those who started as an adult. The risk rises even more for people who use the phone on only one side of the head. While defenders of cell phone safety claim no scientist can explain why EMFs may be harmful in humans, **a body of reliable and consistent animal research shows that electromagnetic fields, equal to those generated by mobile phones, open the blood-brain barrier, causing blood vessels to leak fluid into the brain and damage neurons.** Ironically, that research (by renowned Swedish neuro-oncologist Leif G. Salford, MD, PhD) began with the goal of finding a way to deliver chemotherapy to brain tumors.

Other countries are revising exposure standards.

Members of the European Union, which has led the way on EMF investigations, are moving quickly to protect their citizens, particularly children and pregnant women. In the past 2 years alone, France, Germany, and England have dismantled wireless networks in schools and public libraries, and other countries are pressing to follow suit. Israel has banned the placement of cellular antennae on residences, and Russian officials have advised against cell phone use for children under 18.

Electrical hypersensitivity (EHS) is becoming more widespread.

Symptoms of EHS, a recently identified condition, include fatigue, facial irritation (resembling rosacea), tinnitus, dizziness, and digestive disturbances, which occur after exposure to visual display units, mobile phones, WiFi equipment, and commonplace appliances. Experts say up to 3% of all people are clinically hypersensitive, as many as one-third of us to a lesser degree.

Electrical pollution is increasing dramatically.

"For the first time in our evolutionary history, we have generated an entire secondary, virtual, densely complex environment--an electromagnetic soup--that essentially overlaps the human nervous system," says Michael Persinger, PhD, a neuroscientist at Laurentian University who has studied the effects of EMFs on cancer cells. And it appears that, more than a century after Thomas Edison switched on his first lightbulb, the health consequences of that continual overlap are just now beginning to be documented.

A History of Harmful Effects

Until Edison's harnessing of electricity, humans' only sources of EMF exposure were the earth's static magnetic field (which causes a compass needle to point north) and cosmic rays from the sun and outer space; over our long evolution, we've adapted to solar EMFs by developing protective pigment. "But we have no protection against other EMF frequencies," says Andrew Marino, PhD, JD, a pioneer in bioelectromagnetics who has done extensive EMF research and a professor in the department of orthopedic surgery at the Louisiana State Health Sciences Center. "How quickly can we adapt our biology to these new exposures? It's the most important environmental health question--and problem--of the 21st century."

Research into the hazards of EMFs has been extensive, controversial--and, at least at the outset, animated by political intrigue. A sampling:

- The Russians first noticed during World War II that radar operators (radar operates using radio frequency waves) often came down with symptoms we now attribute to electrical hypersensitivity syndrome. In the 1960s, during the height of the Cold War, they secretly bombarded the US embassy in Moscow with microwave radiation (a higher-frequency RF used to transmit wireless signals), sickening American employees. Radio wave sickness--also called microwave sickness-- is now a commonly accepted diagnosis.

- When television (also radio wave) was introduced in Australia in 1956, researchers there documented a rapid increase in cancers among people who lived near transmission towers.
- In the 1970s, Nancy Wertheimer, PhD, a Denver epidemiologist (since deceased), detected a spike in childhood leukemia (a rare disease) among kids who lived near electric power lines, prompting a rash of studies that arrived at similar conclusions.
- In the 1980s, investigators concluded that office workers with high exposure to EMFs from electronics had higher incidences of melanoma--a disease most often associated with sun exposure-- than outdoor workers.
- In 1998, researchers with the National Cancer Institute reported that childhood leukemia risks were "significantly elevated" in children whose mothers used electric blankets during pregnancy and in children who used hair dryers, video machines in arcades, and video games connected to TVs.
- Over the past few years, investigators have examined cancer clusters on Cape Cod, which has a huge US Air Force radar array called PAVE PAWS, and Nantucket, home to a powerful Loran- C antenna. Counties in both areas have the highest incidences of all cancers in the entire state of Massachusetts.
- More recently, the new findings on transients--particularly those crawling along utility wiring--are causing some scientists to rethink that part of the EMF debate pertaining to the hazards of power lines. Could they have been focusing on the wrong part of the EMF spectrum?

Transients: The Post- Modern Carcinogen

Some earlier, notable--albeit aborted--research suggests this may be the case. In 1988, Hydro-Quebec, a Canadian electric utility, contracted researchers from McGill University to **study the health effects of power line EMFs on its employees.** Gilles Theriault, MD, DrPH, who led the research and was chair of the department of occupational health at the university, decided to **expand his focus to include high-frequency transients and found, even after controlling for smoking, that workers exposed to them had up to a 15-fold risk of developing lung cancer.** After the results were published in the *American Journal of Epidemiology*, the utility decided to put an end to the study.

That research commenced at a time when energy-efficient devices--the major generators of transients--were beginning to saturate North American homes and clutter up power lines. [Smart meters generate transients 24/7 because the 240-volt current from the power line must be stepped down to a fluctuating (pulsing) 3-10 volt current to run the meter.] A telltale sign of an energy-efficient device is the ballast, or transformer, that you see near the end of a power cord on a laptop computer, printer, or cell phone charger (although not all devices have them). When plugged in, it's warm to the touch, an indication that it's tamping down current and throwing off transient pollution. Two of the worst creators of transient radiation: light dimmer switches and

compact fluorescent lightbulbs (CFLs). Transients are created when current is repeatedly interrupted. A CFL, for instance, saves energy by turning itself on and off repeatedly, as many as 100,000 times per second.

So how does the human body respond to this pulsing radiation? "Think of a magnet," explains Dave Stetzer, an electrical engineer and power supply expert in Blair, WI. "Opposite charges attract, and like charges repel. When a transient is going positive, the negatively charged electrons in your body move toward that positive charge. When the transient flips to negative, the body's electrons are pushed back. Remember, these positive-negative shifts are occurring many thousands of times per second, so the electrons in your body are oscillating to that tune. Your body becomes charged up because you're basically coupled to the transient's electric field."

Keep in mind that all the cells in your body, whether islets in the pancreas awaiting a signal to manufacture insulin or white blood cells speeding to the site of an injury, use electricity--or "electron change"--to communicate with each other. By overlapping the body's signaling mechanisms, could transients interfere with the secretion of insulin, drown out the call-and-response of the immune system, and cause other physical havoc?

Some preliminary research implies the answer is yes. Over the past 3 years, Magda Havas, PhD, a researcher in the department of environmental and resource studies at Trent University in Ontario, has published several studies that suggest exposure to transients may elevate blood sugar levels among people with diabetes and prediabetes and that people with multiple sclerosis improve their balance and have fewer tremors after just a few days in a transient-free environment. Her work also shows that after schools installed filters to clean up transients, two-thirds of teachers reported improvement in symptoms that had been plaguing them, including headache, dry eye, facial flushing, asthma, skin irritation, and depression.

Transients are particularly insidious because they accumulate and strengthen, their frequency reaching into the dangerous RF range. Because they travel along home and utility wiring, your neighbor's energy choices will affect the electrical pollution in your house. In other words, a CFL illuminating a porch down the block can send nasty transients into your bedroom.

Something else is sending transients into your home: the earth. From your high school science texts, you know that electricity must travel along a complete circuit, always returning to its source (the utility) along a neutral wire. In the early 1990s, says Stetzer, as transients began overloading utility wiring, public service commissions in many states told utilities to drive neutral rods into the ground on every existing pole and every new one they erected. "Today, more than 70% of all current going out on the wires returns to substations via the earth," says Stetzer--encountering along the way all sorts of subterranean conductors, such as water, sewer, and natural-gas pipes, that ferry even more electrical pollution into your home.

A Pragmatic Proposal

Of course, these small studies--from Milham, Hydro-Quebec, and Havas-- hardly constitute a blanket indictment of transients. "We're still early in this part of the EMF story," says Carpenter. Does that mean as evidence of their harm accumulates, officials will raise a red flag? Not likely, if past EMF debates are any indication. Power companies have successfully beaten back attempts to modify exposure standards, and **the cell phone industry, which has funded at least 87% of the research on the subject**, has effectively resisted regulation. One good reason has had to do with latency--how long it takes to develop a particular cancer, often 25 years or more. Cell phones have been around only about that long.

But does that mean we avoid any discussion of their *possible* dangers? Again, if the past is a guide, the answer appears to be "probably." American scientists worried about the hazards of smoking, the DES (diethylstilbestrol) pill (given to pregnant women, it caused birth defects), asbestos, PCBs (polychlorinated biphenyls)--the list is lengthy--but officially warned about exposure only after they could say with absolute certainty that these things were harmful. As for protecting ourselves from toxic radiation, we have a lax--and laughable--history. In the 1920s, just a few years after medical imaging devices were invented, physicians were known to entertain their guests by x-raying them at garden parties. In the 1930s, scientists often kept radium in open trays on their desks. Shoe stores used x-ray machines in the 1940s to properly fit children's feet, and radioactive wristwatches with glowing hour hands were popular in the 1950s.

All of which means that, absent prudent safety standards from both public officials and manufacturers (adding a protective filter would add 5 cents to the cost of making a CFL and \$5 to the cost of a laptop), you'll have to protect yourself from EMFs. Here's a reasonable proposition: Practice what is known in Europe as the precautionary principle, which is pretty much what it sounds like. Don't expose yourself unnecessarily to EMF hazards. Don't buy a home next to a WiFi tower. Get a corded telephone instead of a cordless one. Don't let your teenager sleep with a cell phone under her pillow. Don't use your laptop computer in your lap. Treat your EMF-emitting devices with the same cautious respect you do other invaluable modern devices, like your car, which is also dangerous--and can kill. You don't drive in an unnecessarily risky fashion--at high speed or while talking on a cell phone (right?).

The sad truth is that until we have more epidemiologic evidence--whether from disease clusters like the ones at La Quinta and on Cape Cod or from long-term analyses of the health of the world's 4-billion-and-growing cell phone users--we won't know definitively whether electrical pollution is harming us. And even then, we are unlikely to know why or how. "In this country, our research dollars are spent on finding ways to treat disease, not on what causes it--which is to say, how we can prevent it," says Marino. "And that's a tragedy."

But that's also another story.

The Opposing View: "No need for regulation"

In 1993, the National Institutes of health and Department of Energy began an extensive review of all studies on the possible health effects of electromagnetic fields. six years later they completed

their project, called the Electric and Magnetic Fields research and public Information Dissemination (EMF RAPID) program, and reported their findings to Congress: scientific evidence of human health risk from EMF exposure is "weak," they concluded.

While acknowledging a link between both childhood and adult leukemias and EMFs, the researchers' laboratory studies with cells and animals failed to identify a mechanism-- that is, how EMFs might cause cancer. (read the EMF RAPID report at prevention.com/links)

To longtime EMF investigators such as David Carpenter, MD, the NIH dismissal of EMF hazards was patently absurd then and even more so now, given the spate of new findings. "We don't know the mechanism for most carcinogens," he says. "There's this idea that anything that causes cancer must directly damage DNA, which is nonsense because most carcinogens don't directly damage DNA, and physicists are adamant that the energy in everyday EMF exposure is so low, it couldn't possibly do anything to biological systems. It's like saying the Earth is flat because you can't see over the edge."

In fact, biological impacts of EMFs--therapeutic ones--are well known. Low-level frequencies are commonly used to promote healing of wounds and bone fractures, and experimental studies show positive effects of pulsed EMFs in treating pain and depression. Recently, Michael Persinger, PhD, a cognitive neuroscientist at Laurentian University, found that pulsed magnetic fields also halted the growth of melanoma cells in mice.

In a neat twist of logic, many scientists believe that the more we document beneficial effects of EMFs, the better we'll understand their hazards. "If EMF at low intensities can heal," says environmental consultant Cindy sage, "then when we are constantly and randomly exposed to it from multiple sources, it may also be harmful, like any medicine used indiscriminately."

What was wrong with the La Quinta School?

According to epidemiologist Sam Milham, MD, the middle school was rife with the usual suspects-- fluorescent lighting, electronic devices--whose toxic effects were exacerbated by an electrical supply overloaded with high-voltage transients.

Substandard wiring in the new school also undoubtedly played a role; officials have since added protective shielding to the electrical room. Milham also measured transient pollution along the transmission lines that fed power to the school. "I found it all the way from the substation to the school--more than a mile," Milham says. "There are three other buildings along the route that also serve children. I've reported it to the FCC and the utility, but they ignore the problem."

How electrical pollution harms

Here, a partial spectrum of the electromagnetic fields that surround us, from strong (waves of extremely high frequency and short length) to weak (waves of extremely low frequency and long length). In each category, you'll find sources that generate the EMF, and associated health risks from overexposure.

X-Ray [medical imaging devices] Used to diagnose illness	RISK Damages tissue and organs by breaking bonds
VISIBLE LIGHT [SUN] The only visible EMF	RISK Ultraviolet light can burn skin and cause cancer
MICROWAVE (a higher frequency RF) [CELL AND CORDLESS PHONES AND TOWERS] Can heat tissues and penetrate blood-brain barrier	RISK Increased risk of brain cancer, dementia, and heart disease
RADIO(RF) [RADIO AND TELEVISION SIGNALS] Can disrupt body's cellular interactions	RISK "Radio sickness" and electrical hypersensitivity syndrome
EXTREMELY LOW FREQUENCY (ELF) [POWER LINES] Can cause weak electric currents to flow through the body	RISK Exposure is associated with childhood leukemia

Read more: <http://www.prevention.com/health/healthy-living/electromagnetic-fields-and-your-health#ixzz22iUSKV5z>

**PRE-FILED DIRECT TESTIMONY
OF [REDACTED]
MPUC Docket No. 2011-00262**

1 **Q. Please state your name, address and contact information.**

2 A. - [REDACTED]

3

4 **Q. Was a smart meter installed at your residence?**

5 A. Yes.

6 **Q. Did you offer to provide testimony in another proceeding about your**
7 **experience with smart meters?**

8 A. Yes. I have had serious health problems related to smart meters and I offered
9 testimony in a Michigan Public Service Commission hearing (Case No U-17053)
10 reviewing a proposed opt-out program for Detroit Edison Company's Advanced
11 Metering Infrastructure. Unfortunately, the Commission would not accept any
12 testimony about health and safety issues.

13 **Q. Is the attached document marked as Exhibit A a true and accurate copy of**
14 **the testimony that you offered to provide to the Michigan Public Service**
15 **Commission?**

16 A. Yes it is.

17 **Q. Are the statements that you made in the attached Exhibit A still true and**
18 **accurate?**

19 A. Yes.

1 **Q. Do you wish to add anything here not included in your statement in Exhibit**

2 **A?**

3 A. I had my home tested for EMF levels with a TriField meter, model 100XE. (I
4 don't remember the exact date).

5 My home tested high EMF in many locations. Therefore, I hired an
6 electrician who is knowledgeable about RF and EMF to make some changes in my
7 electrical wiring in order to, hopefully, lessen the EMF levels.

8 Of course, I don't know what the EMF levels were prior to the meter
9 change, but I had never experienced symptoms before, so something major
10 changed when the meter was installed.

11 My home was built in 1962. I had my home inspected before purchasing it
12 in 1987, and I have always hired reputable people for repairs or additions. It is a
13 nice home, but it was not built with modern technology in mind. If the electrician
14 found instances where EMF levels were raised in my home, I suspect there are
15 many other homes where dirty electricity from these meters has elevated EMF
16 levels.

17 The electrician spent a little over 2 days upgrading the wiring in my home.
18 He said that more can be done, if needed: there are additional interventions that he
19 could do which would involve working with a plumber. He suggested starting
20 with the wiring. So, on Dec. 21-23, he made changes in the electrical wiring in my
21 home.

22 I was away from my home immediately following the work by the
23 electrician. I left for a trip on Dec. 23, 2012 and I just returned on Jan. 4, 2013.

1 ALL of my symptoms completely went away on my trip, in fact, within the first
2 week of my trip.

3 On January 14, 2013, he did additional testing. Some of the high EMF
4 readings had gone down. There are still some areas that test high, however.

5 It is still too soon to know how much, if at all, the recent changes in wiring
6 have helped in alleviating my symptoms. What I noticed immediately upon
7 returning home after being gone for three weeks, was that the ringing in my ears,
8 though still an issue, was not as constant. So far, this intervention, like all the
9 others, has helped at least to some degree. As I said, it is still too soon to know.

10 It remains to be seen if my symptoms resurface after I have been home for a
11 longer period of time.

12 I am planning to follow through with additional interventions to, hopefully,
13 bring my home back to the level of comfort that I enjoyed prior to the meter
14 installations.

15 I am grateful that I have had the resources to be able to spend a great deal
16 of time away from my home since the meters were installed; and the resources to
17 remediate at least some of the adverse effects of the smart meter installations. I'm
18 sure there are others who are not as fortunate, who are forced to just live with the
19 problem.

20 **Q. Do you want to submit the statements in Exhibit A to the Maine Public Utility**
21 **Commission for consideration in its pending proceeding to investigate the**
22 **safety of smart meters?**

1 A. Yes. I submit the attached testimony in support of complainants Ed Friedman, et
2 al in their case before the Maine PUC as evidence that smart meters are not safe.



STATE OF MICHIGAN
WASHTENAW, ss

January 22, 2013

Personally appeared the above-named [REDACTED] and stated under oath that the foregoing Affidavit made by her is true and based upon her own personal knowledge, information or belief, and so far as upon information and belief, she believes the information to be true. Before me,

Andrea Taddie
Notary Public

Andrea Taddie
Name Typed or Printed

My Commission Expires: _____

ANDREA TADDIE
Notary Public, Washtenaw County, MI
My Commission Expires Dec. 9, 2018

3
4

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application and request)
of the DETROIT EDISON COMPANY seeking)
approval and authority to implement its)
proposed Advanced Metering Infrastructure)
opt out program.)

Case No U-17053

QUALIFICATIONS AND DIRECT TESTIMONY OF

QUALIFICATIONS OF [REDACTED]

Q. Do you swear that the testimony you are about to give is the truth, the whole truth, and nothing but the truth?

A. I do.

Q. Please state your name, address and contact information.

[REDACTED]

Q. On whose behalf are you testifying?

A. That of Intervenors Linda Kurtz and Cynthia Edwards.

Q. What are your qualifications to testify?

A. I take my electric service from Detroit Edison. My health has been extremely affected by the smart meter that was first on my home and the nontransmitting Itron digital meter that is now on my home.

Q. What is the purpose of your testimony?

A. To provide information that establishes that there is a need for a no-fee opt-out and the need for an analog meter option. To provide information that may help the Commission in determining that smart and digital meters create certain kinds of economic, medical, social, or other harm or hardship, as outlined in Intervenor Linda Kurtz's Petition for Intervention, to some or all persons such that Detroit Edison and the Commission must not require those who are or who are likely to be so harmed to have a smart or digital meter placed on their home or place of business or to be otherwise deprived of rights and liberties, as outlined in Intervenor Kurtz's Petition for Intervention, by the deployment of the advanced metering infrastructure, smart meters, or digital meters, and, in the alternative, that such persons must be able to avoid such harm to their person and property without being charged a fee.

Q. How long have you lived at your current residence, and do you rent or own?

A. 25 years

Are you retired?

A. I am a retired.

Q. Before a smart meter was installed on your home, did you have problems with wireless technology?

A. No. Prior to the installation of my smart meter, I did not have any problems with wireless technology. I did not experience symptoms when using a cell phone; I did not experience symptoms when I used wireless internet or when I entered a facility that offered wireless internet; and I did not experience symptoms from the wireless technology that was already in my home, which, at the time of the smart meter installation, included a wireless water meter, and a cordless phone.

Q. Prior to the installation of a smart meter on your home, were you affected by other electrical devices?

A. No, not that I was aware of.

Q. When was a smart meter installed on your home?

A. A wireless smart meter was installed on my home on the morning of Saturday, March 10, 2012, while I was not home.

Q. Did you know the meter was going to be installed?

A. Yes. A few weeks before the installation, I had received a notice from DTE that a new, upgraded, wireless meter would be installed on my home. When I got the notice, I called DTE indicating that I would rather not have the wireless meter. I was told that I had no choice. Although I would have preferred not to get it, I was not anticipating a problem with it either. It was a "preference" not to have it, as opposed to an aversion.

Q. You say you preferred not to get one, then tell us why you didn't want it.

1 A. As I said, it was just a preference. When I got my first cell phone, I read the manual, and it
2 indicated that, for safety reasons, I should hold the cell phone about an inch from my head when
3 using it. I believed the manufacturer's warnings which indicated there may be risks involved with
4 this technology. I have used, and still use, lots of wireless devices. It's not that I worry about their
5 effects and avoid them; it is more that I weigh the benefits, and I purchase the ones which I see as
6 highly beneficial, I choose not to use the ones that are not. The meter did not fall into the "highly
7 beneficial" category. I am concerned about the environment and I am already conscientious
8 regarding my energy usage at home. I keep my thermostat lower and wear warm clothing in the
9 winter, I turn down my heat at night and when I am gone, I don't often use air conditioning during
10 the summer, I have replaced older appliances for newer, more efficient ones, My TV is very small
11 and I rarely watch it, I turn off the lights I don't need. In weighing the proposed benefits a smart
12 meter, it didn't seem like something I needed. However, when I called DTE, I was told I didn't have a
13 choice. I didn't get upset or argue. I just accepted it. Had I had any idea what an impact it would
14 have on my life, though, I would have protested immediately
15

16 **Q. What happened when you returned home after the meter had been installed?**

17 A. I returned home a little after 1 p.m.. There was a note on my door indicating the new meter
18 had been installed. I didn't think much about it. Shortly after arriving at home, I went into my
19 kitchen to prepare lunch. There are no words that can adequately describe what happened next.
20 Here's my best effort:

21 As I stood at my kitchen sink (a stainless steel sink, opposite my refrigerator), I felt a very
22 uncomfortable vibration, like a low-level electric current, going through my body; there was a
23 buzzing sound in my head; and I experienced a jittery feeling in my body.
24

25 When I stepped away from the sink, the feeling lessened considerably, but was still noticeable,
26 especially whenever I was in close proximity to the back wall of my home.

27 My first thought was, "That must be the new meter. This will take some getting used to." At that
28 point, I wasn't upset and I didn't panic. I honestly thought that my body would just need some time
29 to adjust to it, and then everything would be okay.
30

31 Later, a friend who is a physics professor explained that my extreme reaction may have been
32 because radio waves were bouncing off the metal surfaces of the sink and/or the refrigerator. I
33 don't know what caused it; I just know it was weird and extremely uncomfortable.
34

35 **Q. So you weren't worried about the new meter?**

36 A. No. not yet. I wasn't worried prior to the installation, and when I first had the reaction, I
37 just thought it was something my body would adjust to. Looking back, of course, I think "How could
38 I have been so stupid? Why didn't I leave my house immediately?" At the time, though, as strong as
39 my initial reaction was, it didn't occur to me that exposure to a meter could cause problems, or
40 have prolonged consequences. I assumed I'd get used to it and the weird feeling and buzzing in my

1 head would go away. It was seeing my blood pressure suddenly shoot up, that suggested to me that
2 the meter was causing more than a "weird feeling." That's what triggered my concern.

3
4 **Q. Had you heard of smart meters prior to having one installed on your home?**

5 A. Yes and no. I was not aware of any controversy. I had seen an article that said energy
6 companies were installing new meters; that in some locations, people were being forced to accept
7 the meters whether they wanted them or not; and that it wasn't right. I tend to be more accepting
8 of things, and because I considered the views of this person to be a little extreme, I hadn't taken the
9 article seriously. I hadn't given it much thought, that is, until my personal experience with smart
10 meters.

11 **Q. What happened next, the day the meter was installed?**

12 A. As the day progressed, I developed a dull headache and I had a hard time focusing and
13 concentrating. I also became hoarse. At first, I didn't make a connection between these symptoms
14 and the meter. I did later, though, when these symptoms persisted, and when they developed at
15 home, but went away after being away from home for awhile.

16
17 That first day, in addition to the headache and lack of focus, by early evening, my blood pressure
18 had gone up significantly. High blood pressure had not been an issue for me. I had had a blood
19 pressure monitor, and for several years I had checked it occasionally. There had never been cause
20 for concern.

21 **Q. Why had you made the decision several years ago to check your blood pressure from time
22 to time?**

23 A. I care about my health. Checking it occasionally was a precautionary measure.

24
25 **Why are you so sure that the smart meter influenced your blood pressure readings?**

26 A. Quite by coincidence, I had taken lots of readings right before smart meter installation. I do
27 Bikram Yoga almost every day. It is a 90 minute, rigorous series of 26 postures, that is done in a
28 room that is 105 degrees. It is a good workout. A fellow classmate had mentioned health benefits
29 she attributed to her yoga practice, lower blood pressure being one of them. As I said, I didn't have
30 blood pressure issues, but I wondered what effect, if any, my yoga practice had on mine. I decided
31 to do an experiment: My plan was to take my blood pressure three times a day: before class, after
32 class, and a reading later in the day. It was because of this experiment that I noticed the immediate
33 spike in my blood pressure.

34 **Q. What were your blood pressure readings prior to the smart meter installation?**

35 A. Exhibit A is my record of blood pressure readings from March 1 through March 12. Prior to
36 March 10 (installation day), the range in readings was 108/61 to 133/75. The average reading was
37 119/64.

38 **Q: What were your readings the day of the installation?**

39 A. Before yoga, my blood pressure was 118/72. After yoga, it was 125/72.

1 By 5:00 p.m. it was 150/90. Later, it was 157/86. I remember that right before going to bed that
2 night it was 165/90, but I did not record that reading.

3
4 It was the rise in my blood pressure that triggered my concern. It made me aware that my body was
5 being affected on more levels than I had realized. and that the weird feeling I was experiencing was
6 not something to take lightly

7
8 **Q. What did you do then?**

9 A. That night, rather than sleep in my own bed, I slept in the upstairs bedroom furthest away
10 from my smart meter. The next day, Sunday, March 11, I called a friend and I arranged to stay at
11 her house. I slept at her house from Sunday until I left for a three-week trip to Brazil on March 18.

12
13 **Q. The second night, you slept at a friend's house. Did you notice a difference when you**
14 **slept at your friend's house?**

15 A. I didn't experience the buzzing sound in my head at her house, and the next morning my
16 blood pressure was down again. I slept better than I had at my own house, and I didn't wake up
17 with a headache. The weird, jittery feeling I had when at home lessened, but was still noticeable.

18 **Q. Did you return to your home?**

19
20 A. Yes. I could not totally avoid being in my own home that week because, in addition to
21 packing for my trip, I had many things I had to take care of before leaving. However, I stayed away
22 from home as much as I could.

23
24 **What happened when you were in your own home that week?**

25 The weird, jittery feeling and difficulty focusing persisted; I had headaches. Also, my eyes hurt, I
26 became hoarse, and I developed a dry cough. For the first time in my life, I started on blood
27 pressure medicine.

28
29 **Q. Did you call DTE?**

30 A. Yes. Monday, March 12, the first business day after my meter was installed, I called DTE
31 from home. I was told there was no way to opt out of a smart meter. I explained that the meter was
32 making me sick and that I couldn't stay in my house. I said I wanted to be transferred to someone
33 who could help me. The person I talked to said she could not transfer me to a supervisor, but that
34 she would arrange for someone to call me back. I indicated again that it was very uncomfortable for
35 me to be in my house, but that I would wait there for the call. I said it was an emergency, and that I
36 needed to talk to someone as soon as possible. No one called back. I called again that day or the
37 next, and got no response.

38
39 How were you feeling inside your home waiting for the call? The jittery feeling, the difficulty
40 concentrating, and the buzzing in my head were worse. I was also upset that I was getting such a

1 run-around from DTE. I knew I was leaving the country in a few days. I had hoped that I'd be able
2 to come back to a home with a normal, comfortable environment.

3
4 **Q. Did DTE get back to you?**

5 A. Not right away. When I had not heard back by Wednesday, March 14, two days after being
6 told someone would call me back, I sent an email to DTE via their online complaint site.
7 I was eventually told I was being referred to Elaine Curtis. I talked to Elaine on Friday, March 16.

8
9 **Q. What did she tell you?**

10 She said DTE would remove my meter if I could provide a letter from my doctor indicating my
11 smart meter was making me ill.

12
13 **Q. Had you seen a doctor?**

14 A. Yes. I had seen my doctor earlier in the week, on Wednesday, March 14. At that time, of
15 course, I had not yet talked with Elaine Curtis, so I did not know I would need a letter. Since it was
16 Friday by the time learned about the need for a doctor's letter; and I was scheduled to leave for
17 Brazil early on Sunday, I was unable to talk to her before I left. I called her office on Friday
18 afternoon, and when I didn't reach her, I left a message.

19
20 I had contacted my doctor immediately; I had been concerned about all of my symptoms, but
21 especially the high blood pressure readings. I wanted to get in to see someone before leaving on my
22 trip. My appointment was on Wednesday, March 14. Following the appointment, I started taking a
23 beta blocker. She said it should lower my blood pressure without making it go too low when I was
24 away from smart meters. She was right, it did. It also helped relieve the persistent jittery feeling I
25 was having. I continued to sleep at my friend's and spend as little time at home as I could.

26
27 **You were gone for three weeks. How did you feel in Brazil?**

28 A. I was fine in Brazil. I felt great and I slept very well. The headaches, the buzzing in my head,
29 and the weird jittery feeling all went away and did not come back until I returned home.

30
31 **Did your doctor write the letter?**

32 A. Yes. In spite of the fact that communicating from Brazil proved to be a challenge because
33 phone lines and access to email were not always available or consistently working, my doctor did
34 send the letter to DTE. Six days prior to my returning home, I received an email from Elaine Curtis
35 indicating that she had received the letter from my doctor, and that the meter would be removed.
36 Dr. Kyle Morgan faxed her letter directly to DTE; DTE has the letter. I do not have a copy.

37
38
39 **Q. Did DTE follow your doctor's instructions?**

1 Not exactly. In addition to indicating the meter was making me ill, Dr. Morgan had specified an
2 analog meter. DTE replaced my smart meter with a different digital meter, not an analog meter.

3
4 Elaine Curtis said that DTE no longer had a distributor for analog meters. From Brazil, I sent an
5 email to DTE via the DTE complaint link.

6
7 The many typographical errors exist because, after losing power in the middle of writing my letter
8 several times (and therefore, losing what I had written), I finally sent this one, errors and all.

9
10 DTE ignored both my request for an analog meter and my doctor's letter specifying the need for an
11 analog meter. If DTE had wanted to install an analog meter, it would have been very easy to do so.
12 Hundreds, even thousands of used analog meters, in good working condition, were available.

13
14 **Q. Was the smart meter removed?**

15 A. Yes, but it took awhile. Since I had received the email from Elaine Curtis on April 4th
16 indicating that my meter would be replaced, and since I wasn't coming home until April 10th, I had
17 hoped that my smart meter would be gone when I got home. As soon as I arrived home, I walked to
18 the back of my house and checked. It hadn't been changed. I went back to stay at my friend's house,
19 and I called Elaine Curtis immediately. I don't remember if I actually talked to her that day, or if I
20 left a message and she called me back. When we talked, she thought that my smart meter had
21 already been removed. She said she would check into it and get back to me. She did. When she
22 called me back, she assured me it would be removed within a few days. It was. I don't remember
23 what day it actually came off.

24
25 **Q. Why did you request an analog meter?**

26 A. I had not had any problems with the old analog meters; and, although I didn't understand
27 the concept, I had heard the term "dirty electricity" associated with digital technology. At that
28 point, I wanted my old, familiar, healthful home back.

29
30 **Q. Did replacing the smart meter with a digital meter solve the health problems caused by
31 the smart meter?**

32 A. No. Although there was an improvement, the new digital meter did not solve the problem.
33 My symptoms were not as severe as they had been with the smart meter, but the weird jittery
34 feeling, the headaches, the buzzing sound in my head, the cough, memory problems, and the
35 difficulty focusing—all came back, just to a lesser degree.

36
37 **Q. What did you do?**

38 A. I contacted Elaine Curtis again. She said she didn't think the new meter could cause
39 problems, but that she would look into it. When she got back to me, she said that the new digital
40 could not be the problem because it did not send a signal.

1
2 In the meantime, I had talked to my friend who teaches physics. She said that because radio
3 frequencies travel long distances, my current problems might be caused by the RF from my
4 neighbors' meters. She recommended putting up heavy duty tinfoil, shiny side toward the meters,
5 where I suspected the RF might be entering my home. The tin foil would help shield my home,
6 since radio waves are reflected by metal and shiny surfaces. She also explained that there are
7 materials which diffuse radio frequencies.

8
9 Someone else said that the problem could be that the new digital meter was dumping dirty
10 electricity into my home, and that could be causing the problem.

11
12 **Q.What did you do then?**

13 A. I did what I could to solve the problem:

14 My first intervention was to line my garage and cover an outside wall with heavy duty tin foil to
15 shield my house from my neighbor's smart meter that was closest to my house, and where I felt it
16 the most. That helped....a little. The buzzing in my head was definitely still there, but not quite as
17 intense. The other symptoms remained.

18
19 Next, I lined the inside wall with tin foil that shares the wall with my meter, On top of that, I put 3
20 layers of absorbing material. After this intervention (and every other intervention), I waited awhile
21 to see what, if any, effect it had on how I felt or on my symptoms.

22
23 **Q.Did it help?**

24 A. Yes. Although better, it was still difficult to be in my home.

25 Now that I was spending more time at home, other symptoms surfaced. I wasn't sleeping through
26 the night: I'd wake up after three, four or five hours and not be able to go back to sleep. I'd feel
27 tense, jittery. I became hoarse, and I developed a cough. After being home for about three weeks, I
28 began to notice breathing problems: I would get out of breath just by going upstairs, and I had
29 difficulty breathing in my Bikram Yoga Class when doing postures that I had done with ease prior to
30 the smart meter installations. Also because of my yoga practice, I noticed a slight weakness on my
31 left side, that had not been there earlier. I was not able to do some of the strength building postures
32 I had done earlier.

33
34 The buzzing sound in my head would seem louder late at night and early in the morning, and I
35 would always wake up with a headache and a buzzing sound in my head.

36
37
38 **Q. Have the interventions you've done helped?**

39 A. There is no question that each intervention has helped. The problem is that my home has
40 never gone back to being what it was before: I still can't tolerate being in my home for more than a

1 week or two without experiencing very worrisome symptoms. At this point, I still have concerns
2 regarding smart meter effects on my blood pressure; and I have even bigger concerns about my
3 breathing and my lungs. If I am home for more than a week, I get out of breath when I go up stairs,
4 or when it is humid outside, and in I am no longer able to do some of the Bikram Yoga breathing
5 exercises and postures that I formerly did with ease. So far, all of these symptoms improve or go
6 away entirely when I leave my home for an extended period of time. I can't keep searching for
7 people and places to visit, and as more smart meters are installed, there will be fewer places I can
8 go for relief.

9
10 **Q.What else have you done to your home?**

11
12 A. Since my first attempt at using tin foil as a shield had helped . . . a little. . . I put up more.
13 I put tin foil on some inside walls. I also put tin foil in my bathroom, and on the back wall of the
14 bedroom that shares a wall with the meter.

15
16 I ordered material which is designed to absorb radio frequencies from lessemf.com/. I put three
17 layers of that material over the tin foil lining the back wall of the bedroom closest to my digital
18 meter. I also lined one of the walls in my bedroom with this material.
19 The RF absorbing material is black; not exactly my color I'd choose for my bedrooms.

20
21 Because I was still experiencing symptoms, a few months ago I ordered a Graham - Stetzer meter
22 and filters. I had read that the EMF levels can be measured and reduced by adding the filters.
23 Again, I did notice a difference with the filters in place, but not enough of a difference to keep me
24 symptom free.

25
26 Last month, I covered the back wall of my home with tin foil. It looks awful, but it made a
27 difference. Again, it helped, but it has not totally taken care of the problem. With each intervention,
28 I have felt a little calmer and the symptoms seem a little less intense, but none of the interventions
29 has totally solved my problems. As I mentioned, I am especially concerned about the breathing
30 difficulties I experience after being in my home for awhile. My blood pressure remains a concern as
31 well, although I have been getting normal readings without medication since my last intervention of
32 putting tin foil on the entire back side of my home.

33
34 I tried to spend as much time out of my home as possible. I left whenever I could. I went on trips
35 for one to three weeks. Some were planned; others were trips I took just to get away from my
36 house. Some symptoms, such as coughing, would go away as soon as I left my home. Others would
37 go away after being out of my home for a period of time. The amount of time required for it to go
38 away, depended on the symptom.

1 q. **How long can you stay in your house before noticing symptoms?**

2 A. The length of time before I experience symptoms depends on the symptom: If I return
3 home after being away for a week, I feel jittery and get a buzzing sound in my head immediately
4 upon entering my home. Within a few hours of being home, my eyes may hurt and become dry,
5 and I will become hoarse and develop a cough. Things like breathing problems and weakness on
6 my left side surface after being home for a week or more.

7
8 **Q. How are things now?**

9
10 A. I'm still spending as much time as possible away from home. From March 10, 2012, when
11 smart meters were installed in my neighborhood, to the present, the longest stretch of time I will
12 have been at home at one time is 30 days. Usually I am home only a few weeks before leaving
13 again. When I leave, I try to be away for one to three weeks.

14
15 So far, when I have spent time away from my home, my symptoms have all lessened or completely
16 gone away. When I return, they return.

17 Although being in my home is more tolerable than it was, even with all that I had done, my health
18 while in my home is still not back to what it had been prior to the smart meter installations

19
20 **Q. Did these interventions help? Is the digital meter no longer a problem?**

21 A. The interventions have helped, but all the problems remain. Whenever I return home, I
22 immediately experience a buzzing sound in my head, I become hoarse, and I get a dry cough. My
23 reactions are systemic: If I am at home for an extended period of time (a few weeks), additional
24 symptoms surface:

- 25 • weakness on my left side,
- 26 • joint pain,
- 27 • chest pain,
- 28 • difficulty focusing,
- 29 • hot flashes,
- 30 • breathing problems,
- 31 • shortness of breath,
- 32 • skin things (a rash above my right eye; rough hardened skin on my knuckles)
- 33 my eyes hurt and become dry,
- 34 all my teeth on my upper left jaw ache.

35
36 **Q. Did you make any more attempts at mitigation?**

37 A. I had not shielded the back of my house, both because I didn't think I could get tinfoil to
38 stay up, and because I knew it would look terrible. Finally, though, in October, out of desperation to
39 make my home more livable, I lined the entire back of my house with tinfoil. It looks awful. Again,
40 it has not totally taken care of the problem and it is only a temporary measure, but it helped. I still

1 haven't spent more than a few weeks in my home since this latest addition of tinfoil, but so far my
2 sleep is more normal, the jittery feeling is not as intense, I don't feel as spacey. I am still getting
3 hoarse, but less often, and my eyes hurt less. The weird, unsettled sensation in my body and the
4 uncomfortable buzzing sound in my head persist.

5
6 With each intervention I have seen an improvement in my symptoms, but my house is in no way
7 back to what it was before smart meters were installed in my neighborhood or the digital meter
8 was installed on my home.. In addition, the tinfoil, besides being ugly, is a temporary solution that
9 won't hold up over time.

10 **Q. How do you know that it is the digital meter that is causing these health effects?**

11 Although I know it seems unbelievable that a meter could trigger all these health effects, the meter
12 was the only thing that has changed in my home environment. Furthermore, at least so far, all these
13 problems go away when I leave my home: some go away immediately upon leaving; others go away
14 in time. The symptoms return when I return.

15 **Q. So when you go to someone else's house that has a smart meter, do you have problems?**

16 A. Yes, to varying degrees. I always experience the buzzing sound and a jittery feeling. I may
17 or may not experience other symptoms.

18 **Q. When you go into public buildings that have smart meters, do you have problems?**

19 A. Fortunately, most of the places I frequent do not have smart meters yet, so I can't answer
20 this adequately. However, the spiritual center I attend has a smart meter and it is very
21 uncomfortable to go there, so I have not been going.

22
23 **Q. Have you been in any home besides your own that has a digital meter?**

24 A. Yes. I have a friend who lives on Lake Tahoe. She remodeled her home several years ago,
25 and has a digital meter. It is not a smart meter. I really don't know if it is the same as my meter.
26 Her home is very deep, and the meter is way at the back. I couldn't sleep when I stayed in a back
27 bedroom. I was able to sleep when I slept on her sofa, in the front of the house. The weather was
28 great when I was there, and we spent most of our time outside hiking or by the water. I didn't have
29 as much trouble there as I do at my own home. Her meter is older; I don't know if it is like mine.

30
31 **Q. In your experience, will the nontransmitting digital meter (the kind now on your home
32 and the kind DTE is proposing as the alternative to the smart meter) solve the health
33 problems you experience with smart meters?**

34 A. No.

35
36 **Are the nontransmitting digital meters an acceptable alternative to the smart meter?**

37 A. No

38
39 **Please list all the health effects you experience from smart and nontransmitting digital
40 meters, whether on your own home or elsewhere.**

1 buzzing in my head
2 Elevated blood pressure
3 Muscle weakness, especially on my left side
4 headaches
5 cramps in legs and feet, extremely cold feet
6 eyes hurt, blurry vision
7 breathing problems, shortness of breath
8 joint pain, arthritis like symptoms
9 chest pain
10 concentration and memory problems
11 All of my teeth on one side aching
12

13 **Q. How do you know that it was the smart meter that first caused these health effects and not**
14 **something else?**

15 A. The symptoms surface when I spend time at home. They go away when I leave. They
16 surface when I am home again. I don't know if the symptoms are caused by my digital meter or my
17 neighbors' smart meters, but the installation of smart meters in my neighborhood is the only thing
18 that has changed in my environment.
19

20 **Q. Please list all the health effects you currently experience from the digital meter on your**
21 **home.**

22 A. Without the remediation or if I am around other people's smart meters, I sometimes
23 experience all of them, especially buzzing in my head.
24 With the mitigation, I still experience buzzing in my ears and a I am not as calm, I'm more agitated.
25 To date, I haven't stayed at home long enough to know if the other symptoms will surface again.
26

27 **Q. Please list all the health effects you in the past experienced from the digital meter on**
28 **your home but do not currently experience.**

29 A. Since putting tin foil on the back of my home, my blood pressure has been normal without
30 medication as long as I avoid smart meters.

31 **Q. Has anything else changed that would account for the subsiding of these effects?**

32 A. No
33

34 **Q. Did you experience any of the health problems you have enumerated prior to the**
35 **installation of smart meters?**

36 A. In 2007 I became ill after being exposed to a very toxic paint. The symptoms I did not
37 experience were the buzzing in my head and the elevated blood pressure. I did experience the other
38 symptoms. I recovered from that injury, and, until the smart meter was installed, I had not had
39 experienced any of these symptoms since my recovery in 2008.

40 A.

1 **Q. Did you have health problems prior to the installation of smart meters? If so, what were**
2 **they and when did they begin?**

3 A. Prior to the installation of my smart meter, I was healthy, I exercised regularly, I ate a good
4 diet, and I was on no medication..
5

6 **Q. Did you do anything else to deal with this problem?**

7 A. Like I said, I put up shielding materials and I started spending as much time as possible
8 away from home. I took several trips. Although some had been planned, I have taken others for the
9 sole purpose of getting away from my house. From March 10, 2012, when my smart meter was
10 installed, to present, the longest stretch of time I will have been home at one stretch is 30 days.
11 When I have spent time away from home, I have generally left for one to three weeks at a time.
12 Each time I left, my symptoms went away within a day or two of being out of my house. I am still
13 spending as much time away from my house as possible.
14

15 At this point, I have spent about \$2000 in materials and devices to tolerate living in my home, and I
16 still have only a temporary fix that doesn't completely solve the problem. And, DTE is proposing
17 additional charges to opt out.

18 DTE could probably use my home as an example of a smart meter success story: Their records
19 should show that my energy usage has gone down since smart meters were installed in my
20 neighborhood. It's a good example of how misleading it can be to just look at one source of data.
21 My "real" energy usage is up—considerably. I consumed a lot more energy when you consider:

- 22 • transportation to doctors,
- 23 • products purchased to remediate my home
- 24 • medications I will need that I would otherwise not have needed
- 25 • driving and flying to destinations in order to stay away from home
- 26 • utilities consumed at visiting destinations

27 These are not just monetary expenses for me. They involve energy expenditures that far outweigh
28 any energy savings DTE might claim.

29 My home no longer feels like "home." The number of places I can go and remain symptom-free is
30 dwindling as Ann Arbor, the rest of Michigan, and the rest of the country is being installed. I would
31 sell my house and move, but, at this point, I don't know where I could go.

32 **Q. Please list all of the health problems you currently experience from the digital meter on**
33 **your home?**

34 A. Since my last mitigation, my most common symptoms are buzzing in my head, jitteriness,
35 and breathing problems. The breathing problems are the ones that concern me the most.

36 **Q. Do you experience problems when you enter homes or other buildings with smart**
37 **meters?**

38 Yes. I can tell immediately if there is a smart meter.

39 **A. Have the health effects you experience as a result of smart meters affected your**
40 **ability to interact socially with others? If the answer is yes, describe how.**

1
2 A. Yes, of course. I am avoiding going places that have smart meters. It limits where I can go
3 and who I spend time with.

4 **Q. Have the health effects you experience as a result of smart meters affected your**
5 **ability to access public services, such as the public library, government offices? If the**
6 **answer is yes, describe how.**

7
8 A. Not yet.

9
10 **Q. Have the health effects you experience as a result of smart meters affected your**
11 **ability to access religious or spiritual services? If the answer is yes, describe how.**

12 A. I am involved with a meditation group. I have not been attending programs because I
13 experience symptoms if I am in the building for an extended period of time.

14
15 **Q. Have the health effects you experience as a result of smart meters affected your**
16 **ability to freely access health services? If the answer is yes, describe how.**

17 A. Not yet.

18
19 **Q. Have the health effects you experience as a result of smart meters affected your**
20 **ability to perform one or more major life activities not already mentioned? If the**
21 **answer is yes, describe what activities and how the effects have affected your**
22 **performance of these activities.**

23 A. So far I have been lucky. Most of the places I frequent do not have smart meters yet. I am
24 not looking forward to the day when smart meters are everywhere. It will be a nightmare for
25 me.

26
27 **Q. What do you feel is a reasonable accommodation to allow you to perform major**
28 **activities of daily living?**

29 A. A free opt out for everyone.

30 An analog meter option.

31 The Establishment of Smart Meter Free Zones and/or Facilities

32 The removal of smart meters everywhere.

**PRE-FILED DIRECT TESTIMONY
OF [REDACTED]
MPUC Docket No. 2011-00262**

Q. Please state your name and address.

A. [REDACTED]

Q. Was a smart meter installed at your residence?

A. Yes. PG&E gas & electric smart meters were installed in January, 2010. Attached as Exhibit A is a photograph of the electric smart meter (Landis + Gyr) that was installed.

Q. Was the meter removed and replaced with an analog meter at your request?

A. In January, 2012, I called and wrote to PG&E, asking them to immediately remove and replace the smart meters that were making me so sick. The PG&E spokesman I reached on the phone read rather woodenly from some kind of prewritten script, repeating over and over again how "smart meters are harmless." I explained to him that I have a degree in physics from [REDACTED], and am well aware that many kinds of radiation that we currently don't have health standards or studies for are far from harmless, and that I was certain I am experiencing extremely negative effects from smart meters installed on my home. Eventually, this so-called "help" line staffer informed me that there was nothing I could do—there was no way (yet) to opt out.

A few weeks later, I attended and spoke at a public hearing of the California Public Utility Commission (CPUC) in San Francisco. Dozens of people spoke about how they, too, have been adversely affected by smart meters, and I was shocked to hear reports of people who have become so electro hypersensitive that they are living in their cars. Beginning in February 2012, California residents in Pacific Gas & Electric's territories could opt out, for an initial price and an on-going monthly extra charge. On February 8, 2012, the gas and electric smart meters on my home were replaced with analog meters.

Q. Are you paying the opt-out fees?

A. Yes.

Q. Please describe the symptoms and adverse reactions you have experienced.

A. I noticed I was having daily nosebleeds and migraine headaches in October 2011. In November, I got a welcome break from home and spent ten days in a smart-meter-free area in Maui. . . where all my symptoms cleared up and I felt fine. That's when I started wondering, "What's making me so sick at home?" When I looked up my symptoms and saw they matched "microwave sickness" very well, I began to suspect smart meters as the culprit at that point, and found information about people resisting the PG&E smart meter rollout in the San Francisco bay area.

I took no notice when smart meters were first attached to my house in January 2010, without notification by my utility, and without my express permission. I didn't notice that one by one, smart meters were being installed on homes to either side of mine, and all around my neighborhood. I didn't notice that slowly but surely, my entire city was being outfitted with smart meters... until one day in October 2011 I wondered why I awoke each morning feeling dizzy, with nosebleeds, blurred vision, ringing in my ears, and migraine headaches. I wondered why when I was just sitting and watching TV or reading, my heart would often skip a beat, and bizarre muscle tremors would inexplicably spasm muscles on my face, arms, legs, and all over my body as if I'd just been given an invisible electric shock.

When I spent ten days away from my home and away from smart meters in Maui, I was amazed at how much better I felt. Gone were all the symptoms which I'd been thinking might have been signs of sudden aging. When I returned home, all the aforementioned symptoms returned, and I wondered what could be causing them. In January 2012, a couple of months later, I caught strep throat and felt sicker than I'd ever been in my life. Unable to feel comfortable anywhere in the house, due to feelings of pain in my head, eyes, ears, heart, and all over my body I slept on the living room floor, and turned my full attention to the question of what, exactly, was making me feel so terribly sick.

When I looked up my symptoms, I was amazed to find that many of them matched what used to be known as "microwave sickness." The first scientific report of microwave sickness appeared in 1974, with symptoms including: fatigue, headaches, palpitations, insomnia, skin symptoms, impotence and altered blood pressure. In cases of extreme exposure, symptoms also included: warming sensations, nausea, neuropathy (numbness, tingling, even paralysis in toes and fingers), stomach cramps, dyesthesia (a crushing sensation) and irritability. People in these studies had been accidentally exposed to microwave radiation, and no clear biological markers at that time were found, so these were not the kind of long-term studies that could establish safe exposure levels.