

ORIGINAL

E-01345A-13-0069

Teresa Tenbrink



From: Patricia Ferre <pferreact@mac.com>
Sent: Tuesday, April 16, 2013 5:51 PM
To: BitterSmith-Web
Subject: Teresa Tenbrink: Zory's Archive Cover letter #1 of 7 E

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Dear Teresa,

Thank you for offering to help me move information from Docket #E-00000C-11-0328 to E-01345A-13-0069. I added the new APS docket number and cover letter to the same 6 page 1972 US Naval Medical Research Institute report. Nickname Zory's Archive will be on the subject heading.

My phone number is 928-472-4333 in case you need to contact me.

Thank you again!

Patricia Ferre

Arizona Corporation Commission

1200 West Washington

Phoenix, AZ 85007-2996

Arizona Corporation Commission
DOCKETED
APR 17 2013
DOCKETED BY [Signature]

Dear Commissioners and Director Olea,

Please consider the Attached US Naval Medical Research Institute report, "MORE THAN 2000 DOCUMENTS PRIOR TO 1972 ON BIOEFFECTS OF RADIO FREQUENCY RADIATION" compiled by Zoarch R. Glaser, Ph.D. LT, MSC, USNR, as credible evidence from our US Navy that research does exist showing non-thermal harmful and even lethal biological effects from radiofrequency microwave radiation. Credible research has existed for decades.

A.R.S. 40-321.A states: "When the commission finds that the equipment, appliances, facilities or service of any public service corporation, or the methods of manufacture, distribution, transmission, storage or supply employed by it, are unjust, unreasonable, unsafe, improper, inadequate or insufficient, the commission shall determine what is just, reasonable, safe, proper, adequate or sufficient, and shall enforce its determination by order or regulation."

Smart meters are certainly "equipment" and "appliances" that are unsafe and improper. It is unjust, unreasonable and improper to harm and imprison APS customers and their environment in a harmful microwave mesh network grid. APS methods of distribution, transmission and supply are unjust, unsafe and improper. APS protection of the unborn, of children, of the sick and electro-hypersensitive from pulsed 900 MHz, 2.4 GHz microwave radiation is inadequate, insufficient and inhumane.

Please consider the 17 categories of harm, (A-Q), described in the US Naval Medical Research Institute report as if it is yourself or your beloved child that you are responsible to protect.

Respectfully submitted,

Patricia Ferre

E-000000C-11-0328

**MORE THAN 2000 DOCUMENTS PRIOR TO 1972
ON BIOEFFECTS OF RADIO FREQUENCY RADIATION¹**

Zorach R. Glaser, Ph.D. LT, MSC, USNR

NAVAL MEDICAL RESEARCH INSTITUTE



Glaser, Z.R. 1972.

Bibliography of reported biological phenomena ('effects') and clinical manifestations attributed to microwave and radio-frequency radiation. Naval Medical Research Institute MF12.54.015-004B, Report No. 2, revised.² 106 pp.

[NOTE: this document was shorted to 25 pages so we could post it here and does not contain all the 2311 references.]

ABSTRACT

More than 2000 references on the biological responses to radio frequency and microwave radiation, published up to June 1971, are included in the bibliography.* Particular attention has been paid to the effects on man of non-ionizing radiation at these frequencies. The citations are arranged alphabetically by author, and contain as much information as possible so as to assure effective retrieval of the original documents. An outline of the effects which have been attributed to radio frequency and microwave radiation is also part of the report.

*Three supplementary listings bring the number of citations to more than 2,300.

Note: This document is "unclassified" and "has been approved"

¹ <http://www.magdahavas.com/pick-of-the-week-1-more-than-2000-documents-prior-to-1972-on-bioeffects-of-radio-frequency-radiation/>

² http://www.magdahavas.com/wordpress/wp-content/uploads/2011/06/Glaser_1972_shortened.pdf

for public release and sale; its distribution is unlimited."

SIGNIFICANCE . . .

The value of the Glaser 1972 document is to counter the statements that "credible" research does not exist showing non-thermal effects. This is a false statement promoted by those who are either unaware of the literature or unwilling to admit this radiation, at levels to which we are currently exposed, can be harmful.

Credible research does exist; it has been around for decades; and it has been largely ignored by those responsible for public and occupational health.

COMMENTS . . .

This is one of the first large scale reviews of the literature on the biological effects of microwave and radio frequency radiation and it first appeared in 1971. The author classified the biological effects, into 17 categories (see below). These categories include heating (thermal effects); changes in physiologic function; alterations of the central, autonomic and peripheral nervous systems; psychological disorders; behavioral changes (animal studies); blood and vascular disorders; enzyme and other biochemical changes; metabolic, gastro-intestinal, and hormonal disorders; histological changes; genetic and chromosomal effects; the pearl-change effect (related to orientation in bacteria and animals); and a miscellaneous group of symptoms that didn't fit into the above categories.

While it is clear that radiation that causes heating can also cause secondary effects, not all the effects listed above are heat-related. Indeed, much of the literature at the lower exposure levels is unrelated to heating. This is the type of research that helped regulators to formulate their microwave guidelines. The non-thermal studies have been ignored by the World Health Organization, upon which many countries look for guidance, and hence the guidelines differ by orders of magnitude from the lowest in Salzburg, Austria (0.1 microW/cm²) to the highest (5,000 microW/cm² for occupational exposure) established by ICNIRP (International Commission on Non-Ionizing

Radiation). This is a 50,000 times difference!

One way to interpret this is that we have two guidelines, one to prevent heating and, a more restrictive guideline, to prevent biological effects, some of which can have serious health consequences.

What is striking is that what we used to call *microwave sickness* (group of symptoms associated with radar workers) has been called *neuroasthenia* (feeling unwell) and is now called *electrohypersensitivity*. In all cases the symptoms are associated with exposure to radio frequency radiation initially radar; then RF heat sealers and computers; and more recently various sources of wireless technology including mobile phone, broadcast, and WiFi or WiMax antennas, wireless routers, smart meters, etc.

The specific biological and health effects, provided in Glaser 1972, are listed below:

A. Heating of Organs* (Applications: Diathermy, Electrosurgery, Electrocoagulation, Electrodesiccation, Electrotomy)

This includes heating of the whole body or part of the body like the skin, bone and bone marrow, lens of the eye with cataracts and damage to the cornea; genitalia causing tubular degeneration of testicles; brains and sinuses; metal implants causing burns near hip pins etc. These effects are reversible except for damage to the eye.

B. Changes in Physiologic Function

This includes contraction of striated muscles; altered diameter of blood vessels (increased vascular elasticity), dilation; changes in oxidative processes in tissues and organs; liver enlargement; altered sensitivity to drugs; decreased spermatogenesis leading to decreased fertility and to sterility; altered sex ratio of births in favor of girls; altered menstrual activity; altered fetal development; decreased lactation in nursing mothers; reduction in diuresis resulting in sodium excretion via urine output; altered renal function; changes in conditioned reflexes; decreased electrical resistance of skin; changes in the structure of skin

receptors; altered rate of blood flow; altered biocurrents in cerebral cortex in animals; changes in the rate of clearance of tagged ions from tissues; reversible structural changes in the cerebral cortex and diencephalon; changes in electrocardiographs; altered sensitivity to light, sound, and olfactory stimuli; functional and pathological changes in the eyes; myocardial necrosis; hemorrhage in lungs, liver, gut and brain and generalized degeneration of body tissue at fatal levels of radiation; loss of anatomical parts; death; dehydration; altered rate of tissue calcification.

C. Central Nervous System Effects

This includes headaches; insomnia; restlessness (daytime and during sleep); changes in brain wave activity (EEG); cranial nerve disorders; pyramidal tract lesions; disorders of conditioned reflexes; vagomimetic and sympathomimetic action of the heart; seizure and convulsions.

D. Autonomic Nervous System Effects

Altered heart rhythm; fatigue, structural alterations in synapses of the vagus nerve; stimulation of the parasympathetic nervous system leading to Bradycardia and inhibition of the sympathetic nervous system.

E. Peripheral Nervous System Effects

Effects on locomotor nerves.

F. Psychological Disorders

Symptoms include neurasthenia (general bad feeling); depression; impotence; anxiety; lack of concentration; hypochondria; dizziness; hallucinations; sleepiness or insomnia; irritability; decreased appetite; loss of memory; scalp sensations; fatigue; chest pain, tremors.

G. Behavioral Changes in Animals Studies

Effects include changes in reflexive, operant, avoidance and discrimination behaviors.

H. Blood Disorders

Effects include changes in blood and bone marrow; increased phagocytic and bactericidal functions; increased rate of hemolysis (shorter lifespan of cells); increased blood sedimentation rate; decreased erythrocytes; increased blood glucose concentrations; altered blood histamine content; changes in lipids and cholesterol; changes in Gamma Globulin and total protein concentration; changes in number of eosinophils; decrease in albumin/globulin ratio; altered hemopoiesis (rate of blood corpuscles formation); leukopenia (increased number of white blood cells and leukocytosis; reticulocytosis (increase in immature red blood cells).

I. Vascular Disorders

This includes thrombosis and hypertension.

J. Enzyme and Other Biochemical Changes (in vitro)

Changes in the activity of cholinesterase (also in vivo); phosphatase; transaminase; amylase, carboxydismutase; denaturation of proteins; inactivation of fungi, viruses, and bacteria; killed tissue cultures; altered rate of cell division; increased concentration of RNA in lymphocytes and decreased concentration of RNA in brain, liver and spleen; changes in pyruvic acid, lactic acid and creatinine excretions; changes in concentration of glycogen in liver (hyperglycemia); altered concentrations of 17-ketosteroids in urine.

K. Metabolic Disorders

Effects include glycosuria (sugar in urine); increase in urinary phenols; altered processing of metabolic enzymes; altered carbohydrate metabolism.

L. Gastro-Intestinal Disorders

Effects include anorexia; epigastric pain; constipation; altered secretion of stomach digestive juices.

M. Endocrine Gland Changes

Effects include altered functioning of pituitary gland, thyroid gland (hyper-thyroidism and enlarged thyroid, increased uptake of radioactive iodine), and adrenal cortex; decreased

corticosteroids in blood; decreased glucocorticoidal activity; hypogonadism (with decreased production of testosterone).

N. Histological Changes

Changes in tubular epithelium of testicles and gross changes.

O. Genetic and Chromosomal Changes

Effects include chromosomal aberrations (shortening, pseudochiasm, diploid structures, amitotic divisions, bridging, "stickiness"; irregularities in chromosomal envelope); mutations; mongolism; somatic alterations (not involving nucleus or chromosomes); neoplastic diseases (tumors).

P. Pearl Chain Effect

This refers to intracellular orientation of subcellular particles and orientation of cellular and other (non-biologic particles, i.e. mini magnetics) affecting orientation of animals, birds, and fish in electromagnetic fields.

Q. Miscellaneous Effects

These include sparking between dental fillings; metallic taste in mouth; changes in optical activity of colloidal solutions; treatment for syphilis, poliomyelitis, skin diseases; loss and brittleness of hair; sensations of buzzing, vibrations, pulsations, and tickling about head and ears; copious perspiration, salivation, and protrusion of tongue; changes in the operation of implanted cardiac pacemakers; changes in circadian rhythms.

NMRI NAVAL MEDICAL RESEARCH INSTITUTE BIBLIOGRAPHY OF
REPORTED BIOLOGICAL PHENOMENA ('EFFECTS') AND
CLINICAL MANIFESTATIONS ATTRIBUTED TO MICROWAVE AND
RADIO-FREQUENCY RADIATION

is available on line at:

http://www.magdahavas.com/wordpress/wp-content/uploads/2011/06/Glaser_1972_shortened.pdf

(ROTATE Q5-6)

5. Which one of the following sources of energy would you MOST want to encourage the use of here in Arizona? **(READ AND RANDOMIZE)**

<u>Core</u>	<u>GOP</u>	
10%	19%	Natural gas
4%	4%	Coal
52%	40%	Solar power
6%	5%	Wind power
2%	5%	Oil
9%	6%	Energy efficiency efforts
11%	14%	Nuclear
5%	5%	ALL/COMBINATION (DO NOT READ)
-	-	NONE OF THESE (DO NOT READ)
1%	3%	UNSURE/REFUSED (DO NOT READ)

6. Which one of the following sources of energy would you MOST want to DISCOURAGE the use of here in Arizona? **(READ AND RANDOMIZE)**

<u>Core</u>	<u>GOP</u>	
3%	3%	Natural gas
38%	25%	Coal
4%	8%	Solar power
13%	22%	Wind power
17%	11%	Oil
1%	3%	Energy efficiency efforts
18%	17%	Nuclear
1%	*	ALL/COMBINATION (DO NOT READ)
4%	7%	NONE OF THESE (DO NOT READ)
3%	3%	UNSURE/REFUSED (DO NOT READ)

Now I would like to read you a series of statements about energy in Arizona. After I read each statement, please tell me if you AGREE or DISAGREE with that statement. (RANDOMIZE)

(IF AGREE/DISAGREE, THEN ASK) And do you STRONGLY (agree/disagree) or just SOMEWHAT (agree/disagree) with that statement?.

	STR AGREE	SMWT AGREE	SMWT DISAGREE	STR DISAGREE	DK (DNR)	REF (DNR)
7. A strong independent solar power market is good for Arizona.						
Core	64%	21%	8%	4%	3%	*
	85%			12%		
GOP	46%	29%	9%	11%	3%	1%
	75%			20%		
8. Utilities like Arizona Public Service and others get too many tax subsidies, breaks and loopholes in Arizona.						
Core	33%	23%	18%	7%	17%	1%
	57%^			25%		
GOP	23%	24%	20%	9%	23%	1%
	47%			29%		
9. Solar power businesses get too many tax subsidies in Arizona.						
Core	17%	14%	21%	22%	25%	1%
	31%			43%		
GOP	30%	16%	16%	13%	25%	1%
	46%			28%^		
10. The rates Arizona Public Service and other utilities charge consumers are fair.						
Core	10%	38%	18%	22%	11%	1%
	48%			40%		
GOP	13%	41%	15%	22%	9%	*
	54%			37%		
11. When it comes to providing electricity, we should have more choices and competition rather than just have to use the power from the utility monopoly. Solar power is an important part of that.						
Core	64%	19%	8%	6%	2%	*
	84%^			14%		
GOP	50%	26%	10%	10%	3%	*
	76%			21%^		
12. A growing solar power market in Arizona will help keep rates down for consumers.						
Core	44%	26%	12%	13%	5%	*
	70%			25%		
GOP	26%	26%	19%	21%	7%	-
	53%^			40%		

13.	The Arizona Corporation Commission should support Arizona Public Service and other utilities that are trying to end the solar power market in Arizona.						
Core	17%	13%	17%	45%	7%	*	
	30%		63%^				
GOP	14%	16%	23%	36%	10%	*	
	30%		60%^				
14.	When it comes to energy subsidies we should reduce them for <u>all</u> types of energy, including nuclear, oil, gas, solar, and wind.						
Core	32%	30%	21%	11%	5%	1%	
	61%^		33%^				
GOP	36%	25%	21%	11%	6%	1%	
	61%		32%				
15.	Nuclear power plants have been subsidized long enough. Utilities should give up their subsidies such as nuclear accident insurance backed by taxpayers.						
Core	27%	26%	19%	15%	12%	1%	
	53%		35%^				
GOP	26%	24%	19%	17%	13%	1%	
	50%		35%^				
16.	All five members of the Arizona Corporation Commission are Republicans. They oversee Arizona's utilities. During their campaigns they advocated for a balanced energy approach which included solar power. They should honor those commitments now that they have been elected.						
Core	76%	15%	3%	2%	4%	*	
	91%		5%				
GOP	62%	20%	6%	5%	7%	1%	
	82%		11%				
17.	Solar energy is finally succeeding in Arizona because solar customers are allowed to sell the extra energy their solar panels generate back to the utility company. In other words if we are forced to buy power from Arizona Public Service for a certain price, Arizona Public Service should have to buy excess power created by solar panels for that same price. This is a good policy that exists in forty-three other states and it should not be ended by the Arizona Corporation Commission.						
Core	63%	24%	5%	3%	4%	*	
	88%^		8%				
GOP	47%	30%	8%	9%	7%	1%	
	76%^		16%^				
18.	Solar companies are in the process of reducing and eliminating the use of subsidies and incentives. Utilities like Arizona Public Service should too.						
Core	32%	30%	16%	12%	9%	1%	
	62%		28%				
GOP	28%	29%	15%	14%	11%	2%	
	58%^		30%^				

Still thinking about this topic...

19. What type of company do you think is better for the environment (ROTATE) solar power companies or utility companies?

<u>Core</u>	<u>GOP</u>	
63%	49%	SOLAR POWER COMPANIES
21%	31%	UTILITY COMPANIES
12%	15%	DON'T KNOW (DO NOT READ)
4%	5%	REFUSED (DO NOT READ)

20. And, what type of company is more likely to save taxpayers money (ROTATE) solar power companies or utility companies?

<u>Core</u>	<u>GOP</u>	
52%	37%	SOLAR POWER COMPANIES
28%	41%	UTILITY COMPANIES
17%	16%	DON'T KNOW (DO NOT READ)
4%	6%	REFUSED (DO NOT READ)

21. And, would you be more likely or less likely to vote for a candidate for political office if they votes to end the solar power program in Arizona?

(IF MORE LIKELY/LESS LIKELY, ASK) And, is that much (**more/less**) likely or just somewhat (**more/less**) likely?

<u>Core</u>	<u>GOP</u>	
3%	7%	MUCH MORE LIKELY
10%	11%	SOMEWHAT MORE LIKELY
23%	29%	SOMEWHAT LESS LIKELY
52%	31%	MUCH LESS LIKELY
7%	16%	DON'T KNOW (DO NOT READ)
4%	6%	REFUSED (DO NOT READ)
14%^	19%^	TOTAL MORE LIKELY
75%	60%	TOTAL LESS LIKELY

Now, I just have a few more questions for statistical purposes only.

22. And what is the last grade you completed in school? (**DO NOT READ CHOICES**)

<u>Core</u>	<u>GOP</u>	
*	1%	SOME GRADE SCHOOL (GRADES 1-8)
1%	*	SOME HIGH SCHOOL (GRADES 9-11)
11%	12%	GRADUATED HIGH SCHOOL (GRADE 12)
2%	3%	TECHNICAL/VOCATIONAL SCHOOL
24%	29%	SOME COLLEGE
38%	34%	GRADUATED COLLEGE
23%	21%	POST-GRADUATE
*	1%	REFUSED (DO NOT READ)
13%^	13%	HIGH SCHOOL OR LESS
26%	32%	SOME COLLEGE
61%	54%^	COLLEGE+

23. Generally speaking, do you consider yourself to be conservative, moderate or liberal on most issues? (ROTATE TOP TO BOTTOM, BOTTOM TO TOP)

conservative,
moderate
...or...
liberal?

(IF CONSERVATIVE/LIBERAL, ASK:) And would you consider yourself to be VERY (CONSERVATIVE/LIBERAL), or just SOMEWHAT (CONSERVATIVE/LIBERAL)?

<u>Core</u>	<u>GOP</u>	
20%	43%	VERY CONSERVATIVE
22%	28%	SOMEWHAT CONSERVATIVE
34%	24%	MODERATE
12%	4%	SOMEWHAT LIBERAL
12%	*	VERY LIBERAL
-	-	DON'T KNOW (DO NOT READ)
-	*	REFUSED (DO NOT READ)
41%^	71%	TOTAL CONSERVATIVE
25%^	5%	TOTAL LIBERAL

-
- X1. What is your main racial or ethnic origin? Is it ... (READ CHOICES – ACCEPT ONLY ONE RESPONSE)

<u>Core</u>	<u>GOP</u>	
77%	89%	WHITE
15%	4%	HISPANIC, SPANISH OR MEXICAN AMERICAN
1%	1%	NATIVE AMERICAN OR AMERICAN INDIAN
4%	1%	BLACK OR AFRICAN AMERICAN
*	1%	ASIAN
*	-	OTHER (Specify: _____)
3%	4%	REFUSED (DO NOT READ)

-
24. Gender (BY OBSERVATION)

<u>Core</u>	<u>GOP</u>	
48%	50%	MALE
52%	50%	FEMALE
