SOME POINTS I BELIEVE THE STUDY PANEL ON SMART METERS SHOULD CONSIDER

1. To begin, I strongly recommend that each member of the CCST panel take a little time to watch online a presentation about smart meters and health, made in September by physician and biomedical engineer Karl Maret. He discusses, giving graphic examples, evidence supporting biological interactions resulting from exposure to low-intensity, high-frequency radio/microwave pulse-modulated fields (other than thermal effects). Dr. Maret’s presentation can be found at http://www.communitytv.org/programs/online/truth-about-smart-meters. (beginning at 23:40 on the video telecast). In addition to many specific scientific points, Dr. Maret speaks of the relevance of the precautionary principle with regard to the smart meters. If the panel members identify any items within the Doctor’s presentation that interest them / are relevant to their report, I can very quickly get to them whatever additional background or documentation they may require.

2. In claiming that the RF exposures from their smart meter program is well below FCC limits, PG&E (and the CPUC) ignore the facts that those limits were set many years ago, when there had been considerably less research conducted on bioactivity of RF/microwave exposures. Those limits were based solely on damage that could occur to the body by way of thermal effects; yet there have been many thousands of scientific studies that indicate bioactivity of pulsed exposures at levels below those that create tissue heating. A large number of these studies suggest the possibility of DNA disruptions and neurological and other harm resulting from such low-level exposures. References to such studies are available upon request. A small subset of such studies are referenced at the end of this document; others are referenced in the letter from physicians regarding smart meters, being sent along with this document.

According to the EPA itself, “the FCC’s current exposure guidelines…are thermally based, and do not apply to chronic, nonthermal exposure situations… Therefore, the generalization by many that the guidelines protect human beings from harm by any or all mechanisms is not justified…There are studies [of chronic or prolonged low-level exposure] that suggest that potentially adverse health effects, such as cancer, may occur.” [United States Environmental Protection Agency, 7/16/02]

3. No pilot studies were conducted to determine the exposures resulting from PG&E’s unique “mesh network” system functioning in-situ. That is, PG&E claims that each meter transmits information only once an hour (or every 4 hours, depending on which PG&E source of information is to be believed) for residential installations, and every 15 minutes for commercial installations. But these numbers actually only refer to the frequency with which each
property’s installation is polled for its own data; in fact, the system is designed so that each meter actually pulses typically once a minute or even more frequently (in each instance producing RF radiation), due to each meter repeating the signals from all the neighboring meters. A number of trained, experienced electrical engineers or electrical contractors have tested PG&E’s meters in the field, in many different parts of PG&E’s service territory, and they in every case found pulses averaging this much greater frequency. In fact, one of the top executives of PG&E’s smart meter program acknowledged to me recently that their meters “chirp” (i.e., pulse) nearly constantly.

PG&E claims that exposures from their meters are much less than for a typical cell phone. However, not only do their figures ignore the much more frequent pulsing that an actual system in operation generates (as described in 2. above). In addition, all their figures are based on time-averaged exposures, which in this case are not relevant because it is the intensity of the pulses themselves that presents the potential health problems. As an analogy, with time-averaging, one could be take a nail gun, fire it twice during a minute, and average that velocity and impact together with all the seconds when the nail gun wasn’t firing. The result would be a junk number.

PG&E has been unwilling to disclose the actual peak power intensity for its various pieces of equipment (electric meter, gas meter transmitting module, streetside data collection unit, zigbee 2nd transmitter in each electric meter to be used to transmit to and from the HAN coordinating various appliances in the home, etc. And then there is the radiation generated by the wireless router inside each property necessary to make the HAN operate, and by each of the upgraded appliances. Preliminary in-the-field testing suggests that it may well be these peak radiated power emissions from each pulse that—over time—are creating neurological and other symptoms in vulnerable people. If that turns out to be the case, relying strictly on time-averaged data can obscure the actual risk factors from PG&E’s technology and the way the company’s infrastructure is organized.

4. PG&E’s (and its technical consultant’s) analysis further ignores the impact of the typical installation pattern for multi-unit buildings—i.e., having 10-30 meters lined up side-by-side along one wall, all chirping back and forth with the data from their own units and all the others in the complex. What is the exposure impact of having a child’s head in a bed just on the other side of the wall containing all these contiguous meters? Has PG&E ever tested this in the field, for actual installations. I believe the answer is no.

5. PG&E further does not consider cumulative damage or sensitization that could develop due to both, over time, the operation of this entire system 24/7 systemwide, and the multiple layers of radiation to which members of the public are exposed, in many cases without their informed consent. The latter exposures can include from cellular antennas, ambient exposures from being in proximity to many people using cell phones in enclosed spaces (perhaps
with signals automatically boosted to increase reception), being in the increasing number of environments that have operating wi-fi (including more and more airplane flights), parallel AMI systems for water meters, and the forthcoming super-wifi systems that will soon be ubiquitous utilizing the TV band white spaces that the FCC has just release for auction. (This latter is particularly analogous to AMI in that exposure will be compulsory and ubiquitous, with no means of escape even if one has already been diagnosed as having the recognized ADA disability known as “electrical hypersensitivity”.)

6. PG&E and the CPUC have never arranged for an independent long-term study of possible negative health consequences from the installation and operation of its mesh network AMI system (which itself was only approved by the CPUC in 2009. At the time the original AMI application was approved in 2006, the original authorization stated that the project was exempt from CEQA due to a technicality in the CEQA regulations, namely the exception “in either or both CEQA Guideline § 15301(b), for existing facilities of public utilities, and § 15302(c) for the replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.” At the time these CEQA regulations were created, utility systems emitting RF radiation was not considered by the legislature nor the regulating bodies. I am not certain whether a similar technical exception was made in early 2009 when PG&E changed its application to one for the mesh network system, but am certain that potential harms to the health of the public or the environment was not considered.

7. Concerned members of the public have repeatedly raised the above concerns and questions directly with PG&E Corp. President Darbee and his top Smart Meter program lieutenants, and in all cases they were promised that answers would be quickly forthcoming. Many months have gone by, and the silence form PG&E has been deafening. The same is true of CPUC President Peevey and his staff, with whom the same issues were raised numerous times. Instead, these relevant questions and concerns from the public have been ignored while the AMI installations continue.

8. In addition to the exposures described above, in many cases an electric AMI installation also adds high-frequency pulses to the building’s own AC wiring. This is known as “dirty electricity”, and itself tends to generate and amplify the very range of systems that smart meters are causing through direct ambient exposure. This phenomenon is well-described in the new book by Dr. Samuel Milham entitled Dirty Electricity: Electrification and the Diseases of Civilization, as well as in the research of scientist/professor Dr. Magda Havas (www.magdahavas.com). These pulses of “dirty electricity” further exasperate the problems stemming from AMI installations, but they too are ignored by PG&E and its consultant.
9. A number of physicians have signed a letter, containing many scientific citations that expresses great concern about PG&E’s smart meter program and requests an immediate moratorium on installations and the opportunity for customers to opt out of the program. (A copy of that letter will be attached along with the other material I am sending you now.) Note that, due to the structure of PG&E’s mesh network system, even an individual opt out privilege, while welcome, would in many cases be insufficient because of the continuing exposures from all the surrounding meters.

10. I am including here some points raised in the response just filed by the EMF Safety Network re its petition to the CPUC concerning PG&E’s AMI program, some of which amplify points I have made above:

(a) PG&E’s assessments of RF emissions are technically incompetent and grossly underestimated. PG&E claims that at a distance of ten feet the RF emissions from its Smart Meters are 1/6000 of the FCC RF exposure regulations, which PG&E asserts is 600 microwatts per square centimeter. (PG&E motion for dismissal, Declaration of Daniel Partridge, p. 4, Paragraph 7.) RF emissions from Smart Meters will vary based on numerous factors including duty cycles and co-location of meters. Accepting PGE’s RF emission figures, without accounting for the mesh network system, additional emissions from new appliance RF transmitters inside the home, and multiple factors affecting RF emissions, constitutes technical error. [EMF Safety] Network has asserted that PG&E’s RF figures are, “paltry, inconsistent and contradictory”. (Application, p. 9.) To illustrate PG&E’s continuing contradictions, in a July 2010 phone conversation, PG&E field representative Austin Sharp stated to a Network representative that a Smart Meter emits 8.8 microwatts per square centimeter at a distance of one foot. However, in a July 2010 response to a Network request for peak RF data, Sharp called back and stated that he spoke with a PG&E RF engineer, Jerry Hinshaw, who said that at one foot the peak RF power is 100 microwatts per square centimeter, and at 10 feet it is 1 microwatt per square centimeter. Therefore, according to PG&E, at ten feet Smart Meter RF emissions are 1/600 of their stated FCC exposure limit, not 1/6000. This is another glaring example of PG&E’s inconsistent, contradictory and unreliable information, as Network stated in the Application.

In addition PG&E is now telling the public that Smart Meters transmit only 43 seconds per day in 2-20 millisecond pulses. (PG&E web site.) That amounts to up to 15 RF bursts per minute. In February 2010, Andrew Tang, PG&E Senior Director of Customer Care, said at a Sebastopol City Council meeting that Smart Meters transmitted RF data once an hour. In April 2010, at a PG&E public Smart Meter forum in Sebastopol, William Devereaux, PG&E Senior Director of the Smart Meter Program, and Michael Herz, PG&E’s EMF Program manager, said to a Network representative that Smart Meters transmit once every six hours. PG&E’s claims about Smart Meter RF emissions are untested and inconsistent.
The PD (i.e., proposed decision] wrongly accepts PG&E’s unsubstantiated claims that the RF signals SmartMeters transmit are small. The PD’s blind acceptance of unreliable information amounts to factual and technical error.

(b) The ALJ’s use of ten feet as a safety benchmark is erroneous because it overlooks thousands of living situations. RF emissions increase greatly with proximity to Smart Meters. Many people sleep or spend many hours each day within a few feet of their electric or gas meters. Many customers live or work near banks of multiple meters adjacent to their homes or workplaces. Neither PG&E nor the Commission has evaluated worst-case scenarios for Smart Meter installations.

(c) The PD finds that Smart Meters “produce RF emissions far below the levels of many commonly used devices.” (PD, p. 11, Finding of Fact 3.) The comparison with commonly used devices is untested and without evidentiary support, and is therefore erroneous. The Smart Meter emissions figures used in a chart distributed by PG&E have been time averaged whereas emissions for other devices are not averaged. Smart Meters transmit RF 24/7. A cell phone or a microwave oven may be used for several minutes, or not at all. Distances from such devices are essentially random (one foot, two inches, one meter, at the head) and devices are used differently. The PD’s comparison is like apples to oranges. Consumers should have a choice about exposure to RF devices in their home. Network submits that the Commission should hear factual evidence about RF emissions.

(d) William Devereaux, a PG&E employee who was until recently PG&E’s Senior Director of the Smart Meter Program, has attempted to mislead Network by false statements and deception, in order to spy on an adversary in a Commission proceeding… [He,] the Senior Director of the $2.2 billion PG&E Smart Meter program has publicly reassured consumers and city officials across the state that Smart Meters are safe and accurate, and meanwhile lied about his identity to infiltrate a Network discussion group. The PD’s reliance on PG&E safety claims is especially egregious in light of PG&E’s unethical behavior. The Commission should not blindly accept information provided by PG&E in this proceeding. Network deserves a fair hearing on health impacts of Smart Meters.

11. I am including here points raised in this week’s filing (in the same case as #10 above) by the CPUC’s Division of Ratepayer Advocates (DRA):

(a) [The PD’s] findings (which are supported by a very limited record) are not sufficient to support the implicit conclusion that RF emissions from the SmartMeter system are within safe limits… The FCC’s authority to regulate RF emissions does not deprive this Commission [the CPUC] of its authority under state law to ensure that the in-state utility infrastructure does not jeopardize public health and welfare.
(b) The PD appears to grant the Motion to Dismiss based on the following findings of fact:

[1]. All radio devices in PG&E’s Smart Meters are licensed or certified by the FCC and comply with all FCC requirements.

[2]. Smart Meters produce RF emissions far below health standards adopted by the FCC.

[3]. Smart Meters produce RF emissions far below the levels of many commonly used devices.

The only record evidence to support these findings is found in a declaration by Daniel M. Partridge on behalf of PG&E. The declaration contains broad assertions about the level of RF exposure attributable to PG&E SmartMeters:

“Exposure to radio frequency energy from SmartMeters™ is considerably less than the exposure from other radio devices in widespread use.” “There are many other wireless devices in commonplace use in addition to the radio devices listed above. These devices often involve more frequent radio transmission, emit radio frequency energy for longer periods of time and operate in much closer proximity to humans, than the PG&E SmartMeter™ devices.”

These assertions are apparently based on certain unstated assumptions about the circumstances of exposure:

“SmartMeter™ emissions will result in exposures that are very small compared to existing exposure regulations. For the electric SmartMeter™, the RF fields at 10 feet or beyond will be less than 0.1 microwatts per square centimeter.”

When he expressly addresses circumstances that could impact exposure, Mr. Partridge states:

“The SmartMeter™ radio is typically located on the outside of buildings at some distance and blocked by walls from human inhabitants. Also it transmits for a very short duration.” The declaration does not address to what extent these conditions apply to PG&E customer dwellings and places of work. These statements constitute the whole of the evidence regarding RF emissions in the record of this proceeding. The declaration references critical information which is not in the record and has not been tested in this proceeding.

As DRA noted in comments filed on October 20, 2010 in Application 10-09-012, determination of a causal relationship between SmartMeters and customer health requires a three-step process analogous to establishing air quality impacts. Calculating source emission levels is only the first step. The declaration offered by PG&E implies there is only a single source of RF emissions from PG&E’s AMI system, but does not clearly define the source or state the RF power output of this undefined source. In actuality, the AMI system has multiple sources, including the mesh radio on the customer’s electric meter, the mesh radios on the neighboring electric meters, RF radios on local gas meter modules, home area network (HAN) radios, and signals from the communication network equipment for both gas and electric meters, such as data collector units (DCUs) and repeater stations such as PG&E’s proposed “SUNDS” system. [PG&E is developing a Subterranean Urban Network Deployment System (SUNDS) system to address the “unique challenges in RF communication” in dense urban areas.]
areas such as San Francisco’s financial district.] It is possible that the power of these RF radios vary depending on the location and type of meter installed, and the local configuration of the RF networks required to ensure regular communication…

{EMF correctly rebutted that RF signals are not “blocked by walls” (EMF Response dated May 27, pp.3-4).}

These steps are to calculate source emission levels, model exposure or emissions concentrations at specific locations adjacent to the source; and compare modeled exposure to relevant standards. In providing a single example of RF emissions, PG&E is not providing a complete catalog of the AMI-driven RF sources that impact its customers. An accurate assessment of the RF emissions from the AMI system should begin by quantifying the RF emission power and directionality of all AMI system components which could impact customers. { For example, the record does not indicate if all residential meters have the same RF power output, nor if this power output differs from small or large commercial customers.}

Another key element of RF emissions mentioned in Mr. Partridge’s declaration is the transmission path, including both the distance between the source and receiver and the materials between them. Mr. Partridge posits an RF emission level 10 feet from the source without commenting on whether this distance is typical for SmartMeter installations, and what materials may be within this 10-foot path. Many customers have meters installed in a garage where they might spend a significant amount of time, or on a wall that bounds a high-use living space such as a bedroom or family room. Finally, the time element must be considered. PG&E has indicated that the meter radio “transmits for a very short duration”, but doesn’t quantify the duty cycle of any of the RF radios, the variations that can be expected, or how transmissions from multiple radios might compound exposure. It seems likely based on the factors discussed above that RF exposure could vary significantly among the millions of customer installation sites, and customer locations within those sites. Typical RF exposure levels that impact the majority of PG&E customers will be an important data point when evaluating the health impacts of PG&E’s AMI system and the data provided by PG&E suggests that typical exposure will be low. However, outlier situations with higher than average RF exposure, such as a bedroom bounded by a wall that holds all meters for an apartment complex, must also be considered.

DRA has made recommendations on the type of data that should be compiled by the Commission as well as a process for vetting this data, in comments responding to an application to modify the PG&E AMI decision filed by CARE. {Response of the Division of Ratepayer Advocates to Application of Californians for RenewableEnergy, Inc. (CARE) to Modify Decision 06-06-027, filed October 20, 2010 in A.10-09-012.} DRA incorporates by reference and reiterates those recommendations, and further recommends that the Commission gather adequate data (and allow that data to be reviewed in a public proceeding) before reaching conclusions on the RF emissions from PG&E’s AMI system. DRA is not presuming that there are health effects caused by RF emissions from PG&E’s AMI system. It reminds the Commission that it has a constitutionally mandated
requirement to investigate the possibility of health effects and make sound conclusions based in solid evidence.

(c) In response to Network’s application, PG&E states that AMI RF emissions are much smaller than other RF emission sources in our environment, and also that by themselves, they are much lower than FCC standards. These statements do not address the question of whether the impacts of AMI RF emissions should be considered in addition to those from other sources — whether AMI RF emissions could be the proverbial “straw that broke the camel’s back.” Conceptually, it is reasonable to assume that there may be cumulative impacts of RF exposure, particularly since FCC standards are based on thermal effects, and temperature increases from one heat source compound if another heat source is added to the system. Cumulative exposure is relevant when considering other environmental impacts such as air, water, and noise pollution. Even FCC regulations seem to indicate that cumulative impacts need to be considered. For example, the FCC states that “at multiple-transmitter sites, all significant contributions to the RF environment should be considered, not just those fields associated with one specific source.” In the situation where a new large transmitter that is not categorically exempt" pushes RF exposure over the FCC limits, “it is the responsibility of the applicant to ensure compliance, since the existing site is already in compliance." DRA recommends that the Commission consider whether background RF exposure is germane to the determination of safe AMI RF emissions.

(d) The PD concludes that “[i]t is not reasonable” to consider “the alleged health impacts of RF emissions from Smart Meters at this time” and grants PG&E’s Motion To Dismiss. These conclusions appear to be based on the perception that Smart Meters will make “a relatively tiny contribution…to RF exposure relative to other source in our modern environment.” The PD finds that “Smart Meters produce RF levels far below health standards adopted by the FCC” and “below the levels of many commonly used devices.” But these findings are based solely on the information provided by PG&E in response to Network’s application, which provided only a single estimate of RF exposure without discussion of range of exposure levels that will be experienced by all of PG&E’s customers. In addition, the combined impact of the AMI system emissions in addition to other sources of RF emissions, as discussed in the preceding section, was not addressed by PG&E. The record contains no information about whether new RF emissions from AMI should be considered in isolation, or in combination with emissions from existing RF sources. For these reasons, both the findings and the evidence on which they are based are insufficient to support the PD’s implicit, broad conclusion that the RF emissions from the AMI system are within safe limits.

(e) CONCLUSION
Notwithstanding the FCC’s authority to set RF emissions standards, this Commission has ample authority (as well as a responsibility) under the Public Utilities Code to ensure that PG&E’s AMI system poses no threat to public health or safety. The PD errs in reaching conclusions based on limited and incomplete evidence about the RF
emissions from PG&E’s AMI system. The record in this proceeding is not robust enough to support conclusions about the health impacts of Smart Meters. DRA recommends that the Commission delay consideration of this PD until additional evidence is compiled and reviewed in a public process. If the Commission decides to defer all questions concerning RF emissions of the AMI system to the FCC, it should refrain from making findings about Smart Meter RF exposure levels that are not supported by complete and adequate data, as this PD does. DRA strongly recommends the first approach as a means of building public confidence in the statewide advanced metering network, and restoring confidence in the Commission as a defender of the public interest.

12. Physician Toril Jelter made comments virtually identical to her letter below directly to the CPUC at one of their meetings:

“I am Toril H. Jelter, a board certified pediatrician specializing in medical and environmental aspects of autism related illness. I have health concerns regarding the unbridled roll out of wireless technologies without adequate health studies beforehand.

Dear FDA/FCC,

I request a moratorium on the Smart Meter roll out ASAP until a proper assessment of health effects has been conducted.

Here are a few patient stories for your review:

A 2 year old child can't sleep at night. He screams inconsolably for hours. When the mother takes the child away from the SF Bay area to a remote area with poor cell phone reception the child sleeps well every night and naps as a normal 2 year old would during the day.

A 40 year old man with MS & EHS (multiple sclerosis and electrohypersensitivity) requests no Smart Meter. His doctor writes a letter to support this request. It is granted BUT only temporarily! His 4 neighbors get a Smart Meter and he develops such severe ringing in the ears (tinnitus) that he is no longer able to sleep indoors. He discovers that the only way he can sleep is to sleep outdoors. (This could be explained by the cumulative effect of EMF in his home + the Smart Meters next door.)

A 45 year old woman with MS has been stable for several years. After installment of a Smart Meter she goes downhill rapidly. Depression, flu-like symptoms and severe fatigue.

Another woman with MS 50 years old improving. Gets a Smart Meter. Gets worse balance, worsening depression. Falls breaks 2 ribs and punctures a lung.

A 10 year old child with high functioning autism gets a Smart Meter. His handwriting deteriorates. He seems more fatigued. He gets flu like symptoms frequently. Loses his appetite. Stops gaining weight.

A 65 year old woman gets a Smart Meter, actually 4 at the head of her bed. (condo) She develops severe tinnitus, sleep disturbance, intermittent confusion, memory problems, heart palpitations and diabetes.
PLEASE HAVE AT LEAST ONE PERSON READ AND UNDERSTAND THE BIOINITIATIVE REPORT and explain it to you to decrease this level of functional disability and suffering. Remember 10-15% of our children already have neurodevelopmental problems. The autism rates are going thru the roof. I fear this will speed things up even more. At this rate close to 100% of our children will be autistic within 100 years. PLEASE think long term NOT just short term.

Thank-you for reading this and for hopefully being a part of alleviating human suffering.

Best Regards, Dr. Jelter

13. **Germany warns citizens to avoid using Wi-Fi**

*Environment Ministry's verdict on the health risks from wireless technology puts the British government to shame.*

By Geoffrey Lean, Published: 09 September 2007, *The Independent*

People should avoid using Wi-Fi wherever possible because of the risks it may pose to health, the German government has said. Its surprise ruling – the most damning made by any government on the fast-growing technology – will shake the industry and British ministers, and vindicates the questions that *The Independent on Sunday* has been raising over the past four months.

And Germany's official radiation protection body also advises its citizens to use landlines instead of mobile phones, and warns of "electrosmog" from a wide range of other everyday products, from baby monitors to electric blankets.

The German government's ruling – which contrasts sharply with the unquestioning promotion of the technology by British officials – was made in response to a series of questions by Green members of the Bundestag, Germany's parliament.

The Environment Ministry recommended that people should keep their exposure to radiation from Wi-Fi "as low as possible" by choosing "conventional wired connections". It added that it is "actively informing people about possibilities for reducing personal exposure". Its actions will provide vital support for Sir William Stewart, Britain's official health protection watchdog, who has produced two reports calling for caution in using mobile phones and who has also called for a review of the use of Wi-Fi in schools. His warnings have so far been ignored by ministers and even played down by the Health Protection Agency, which he chairs. By contrast the agency's German equivalent – the Federal Office for Radiation Protection – is leading the calls for caution. Florian Emrich, for the office, says Wi-Fi should be avoided "because people receive exposures from many sources and because it is a new technology and all the research into its health effects has not yet been carried out".

14. Among the considerable amounts of valuable supporting information available online, the following are definitely worthy of your panel’s inclusion in its study:
Scientist Andrew Goldsworthy’s 2007 paper, entitled “The Biological Effects of Weak Electromagnetic Fields”, with references to many research studies.

Igor Belyaev’s 2005 paper “Non-thermal Biological Effects of Microwaves”, also with many relevant citations, published in “Microwave Review”.

Dr. Donald Hillman’s 2005 paper “Exposure to Electric and Magnetic Fields (EMF) Linked to Neuro-Endocrine Stress Syndrome: Increased Cardiovascular Disease, Diabetes, & Cancer”, also containing many relevant scientific references.

The above three are amongst the many relevant scientific reports linked to at http://www.tetrawatch.net/links/links.php?id=health&list=biological. I strongly recommend that the study panel peruse the entire list of links at this web page before writing its report.

Valuable website covering scientific investigations of microwave/RF pulsed transmissions and health; studies translated into English from various languages.

This “Science Forum” web page contains analysis of bioelectromagnetics research by researchers and other professionals in the field. It includes reviews on various areas of research, papers presented at scientific conferences as well as expert comments that have been submitted to legislative bodies and regulatory agencies in the US and internationally. It should be very useful for the CCST panel’s smart meters study. One of the many examples linked to is:

As promised above, a selection of relevant studies demonstrating non-thermal biological interactions from pulse-modulated fields follows here. References to literally thousands of other such studies can be obtained by sending an email request to Dr. Magda Havas, at mhayas@trentu.ca. Others can be found by visiting her website www.magdahavas.com and clicking on “Zory’s Archive”. In addition, I recommend that the panel read 3 new books on the subject, which themselves are laden with relevant scientific references: they are “Disconnect” by Dr. Devra Davis (epidemiologist), “Dirty Electricity” by Dr. Samuel Milham (epidemiologist), and “Zapped” by Anne Louise Gittleman (nutritionist/health educator).


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