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Introduction

At your request, I have measured the current cumulative radiofrequency, (RF), power density measurements outside and within the Patel residence located at 15105 N. 93rd Way, Scottsdale, AZ. Site measurements were made to included all ambient sources of RF exposures including the contribution from other wireless facilities. This information was used to determine compliance with Federal Communications Commission (FCC) requirements for RF public exposure safety.

RF Exposure Measurement Methods & Results

The measurements at the subject property were made during the afternoon on July 23, 2008 utilizing a Narda Industries model 8718B broadband exposure meter (serial number 6062)with an associated frequency shaped B8742D probe (serial number 08002). Weather conditions during the measurement period were fair and the outdoor temperatures were in the mid to low 90's. All measurements were made in accordance with the manufacturer's recommendations. This included an RF response check to assure that the meter and probe were responding appropriately to an RF energy source. This response check was performed immediately before and after the site measurements and, along with other operational parameters, were found to be operating normally as specified by the manufacturer. In addition, all environmental operating conditions, as specified by the manufacturer for this instrument, were satisfied. The probe and meter were calibrated by the manufacturer with standards traceable to the U.S. National Institute of Standards and Technology (NIST) on August 23, 2007. In accordance with the manufacturer's recommendations, the next calibration will be due prior to August 23, 2009.

The Narda meter/probe combination senses fields within the frequency range from 300 kHz to 3 GHz and indicates exposure as a percentage of the FCC public exposure standard. The dynamic range of the instrument is between 0.6% and 600% of the FCC public exposure standard. For common wireless frequencies such as Distributed Antenna Systems (DAS) and Personal Communication Systems (PCS), this response range equates to a power density range between 6 $\mu W/cm^2$ and 6 mW/cm^2. Reading obtained below 0.6% MPE are reported as the minimum range of the instrument (i.e., 0.6% MPE). The data supplied by the manufacturer sets the frequency response of the probe as ± 1 dB and calibration accuracy and isotropicity as ± 0.5 dB and ± 1 dB respectively. The probe is isotropic, meaning that it can directly measure

the strength of complicated fields independent of the orientation, polarization, or arrival angle. Measurements were made from ground level to head height (~6 feet) above the ground. The probe was swept over approximately ± 3 feet to avoid destructive interference thus assuring the highest power density was being measured at a given location. A continuous observation of the exposure allowed the location of the maximum power densities to be determined. During the indoor and outdoor ambient level survey the meter displayed RF exposure levels between 0.0342 and 0.5081% of the FCC public exposure safety standard. Thus the maximum environmental RF exposure measurement result, at all locations, was recorded as 0.6% of the FCC public exposure safety standard for continuous exposure. Measurements from several RF emitting devices in the Patel residence resulted in exposures between 1.6 to 30% of the public MPE. The locations and devices measured together with the measured values are provided in table one. A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place RF exposures in perspective.

Inside Locations	**% Public MPE**
Wireless router	1.6 to 1.8%
Cell phone	8.50%
Childrens room	Less than 0.6%
TV/Media Room	Less than 0.6%
Kitchen Microwave Oven	15 to 30%
Outside Locations	
Across street from home	Less than 0.6%
Back Yard	Less than 0.6%
Upstairs Balcony	Less than 0.6%

Table 1: Measurement locations and RF exposures measured (%MPE)

RF Exposure Standards

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86.

The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHz in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is 1,000 $\mu W/cm^2$. This compares to 5,000 $\mu W/cm^2$ at the most restrictive of the PCS frequencies (~1,800 MHz) that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled " (e.g., public) and continuous

exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at PCS frequencies to 1,000 $\mu W/cm^2$, and to 200 $\mu W/cm^2$ for the most restrictive frequencies (e.g., VHF TV band).

The 1992 ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI. A revision of this standard (C95.1 2005) was completed in October 2005 by SCC 39 the IEEE International Committee on Electromagnetic Safety. Their recommendations are similar to the NCRP recommendation for the maximum permissible exposure (MPE) to the public at cellular and DAS frequencies (410 $\mu W/cm^2$ and 950 $\mu W/cm^2$ for continuous exposure at 820 MHz and 1,900 MHz respectively) and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.

On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at PCS frequencies of 1,000 $\mu W/cm^2$). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the quality of the human environment." In as far as there was no other standard issued by a federal agency such as the Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the maximum permissible exposure (MPE) values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable. There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards “Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation” (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., DAS company RF technicians) and they must be aware of

and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

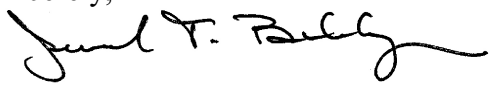
Summary and Conclusion

All locations, as described above, were found to be in full compliance with the FCC standards for public RF exposure safety. Due to the fact that the maximum RF ambient indoor and outdoor locations measured did not exceed the lower limit of sensitivity of the instrument (i.e., 0.6% of the public MPE), the actual exposures may be considerably lower than reported here. However, this level of sensitivity is consistent with generally accepted RF public safety survey techniques and standard industry practice. It is important to realize that the FCC maximum allowable public exposures are not set at a threshold between safety and known hazard but rather at 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations. Thus the previously mentioned maximum ambient exposure identified (i.e., 0.6% MPE) represents a "safety margin" from this threshold of potentially adverse health effects of at least 8,300 times.

Given the low levels of radiofrequency field exposure and given the evidence on biological effects in a large data base, there is no scientific basis to conclude that harmful effects will attend the RF exposure measured outside and within the Petrinovic residence. This conclusion is supported by a large numbers of scientists that have participated in standard setting activities in the United States who are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans.

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and the result of the measurements of existing RF exposures. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

Sincerely,



Jerrold T. Bushberg Ph.D., DABMP, DABSNM
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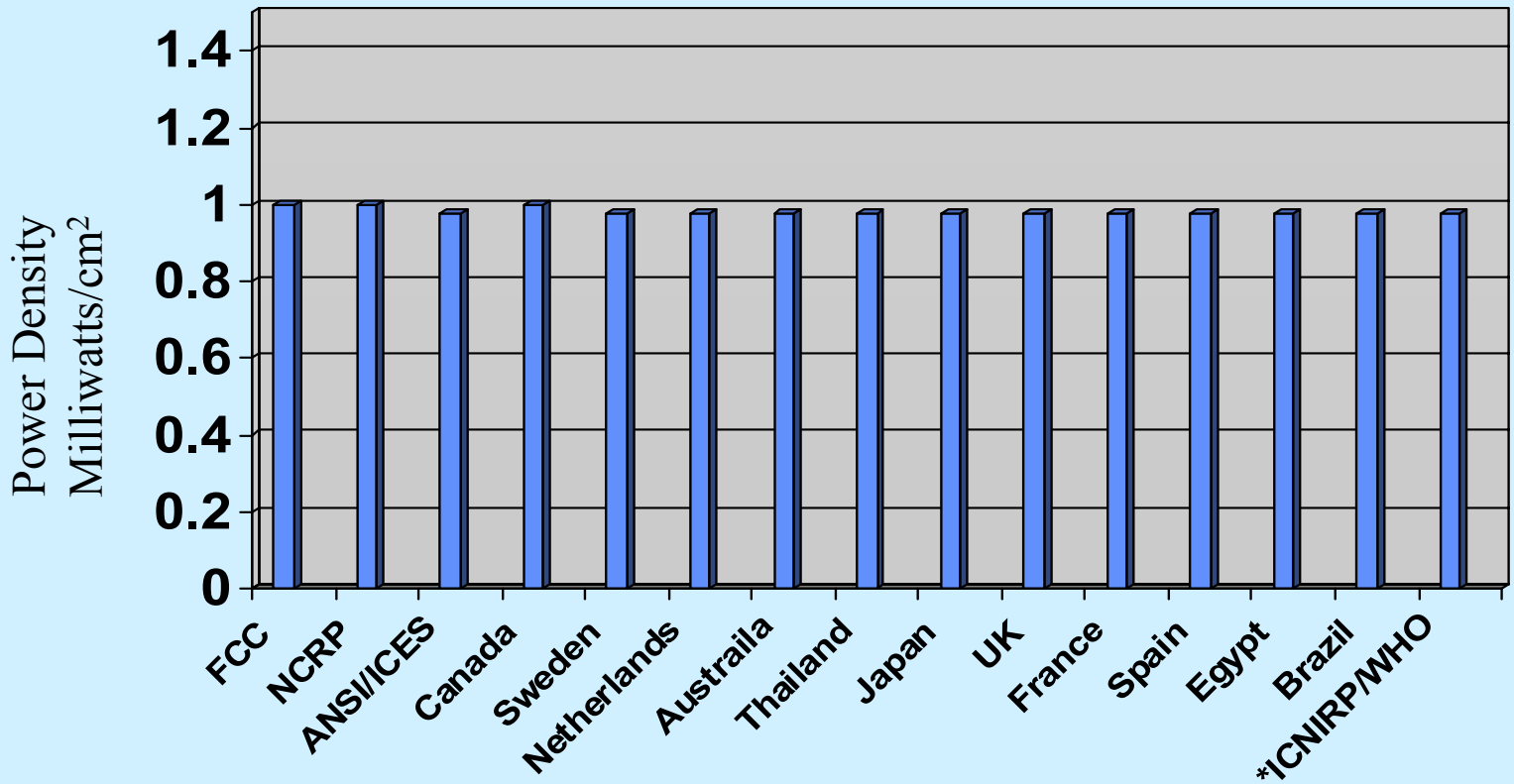
Diplomate, American Board of Science in Nuclear Medicine (DABSNM)

Enclosures: Figures 1-3; Statement of Experience.

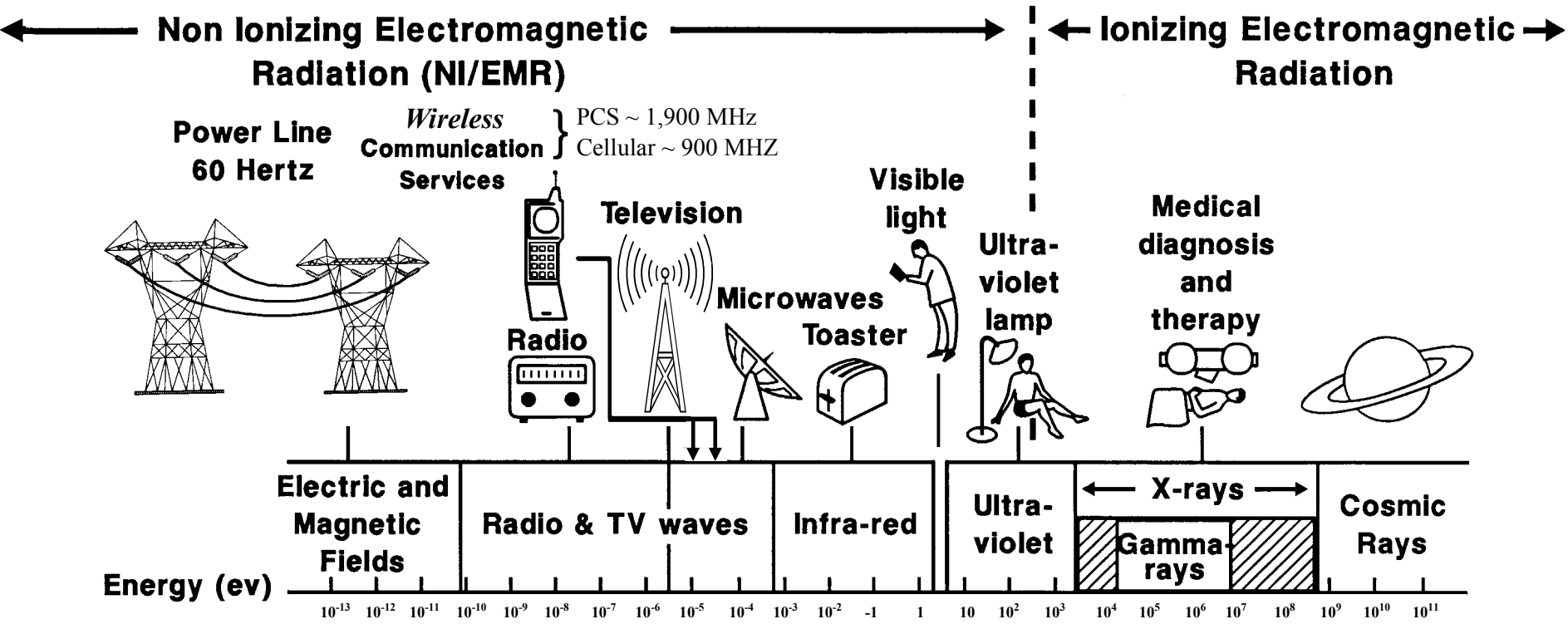
National and International Public RF Exposure Standards (DAS @ 1,950 MHz)



*International Commission on Non-Ionizing Radiation Protection (ICNIRP) Public Safety Exposure Standard. ICNIRP standard recommended by the World Health Organization (WHO). Members of the ICNIRP Scientific Committee were from:

- Australia
- Finland
- France
- Germany
- Hungary
- Italy
- Sweden
- Japan
- United Kingdom
- United States

Figure 1



The Electromagnetic Spectrum

Figure 2

Typical Exposure from Various Radio Frequency / Microwave Sources

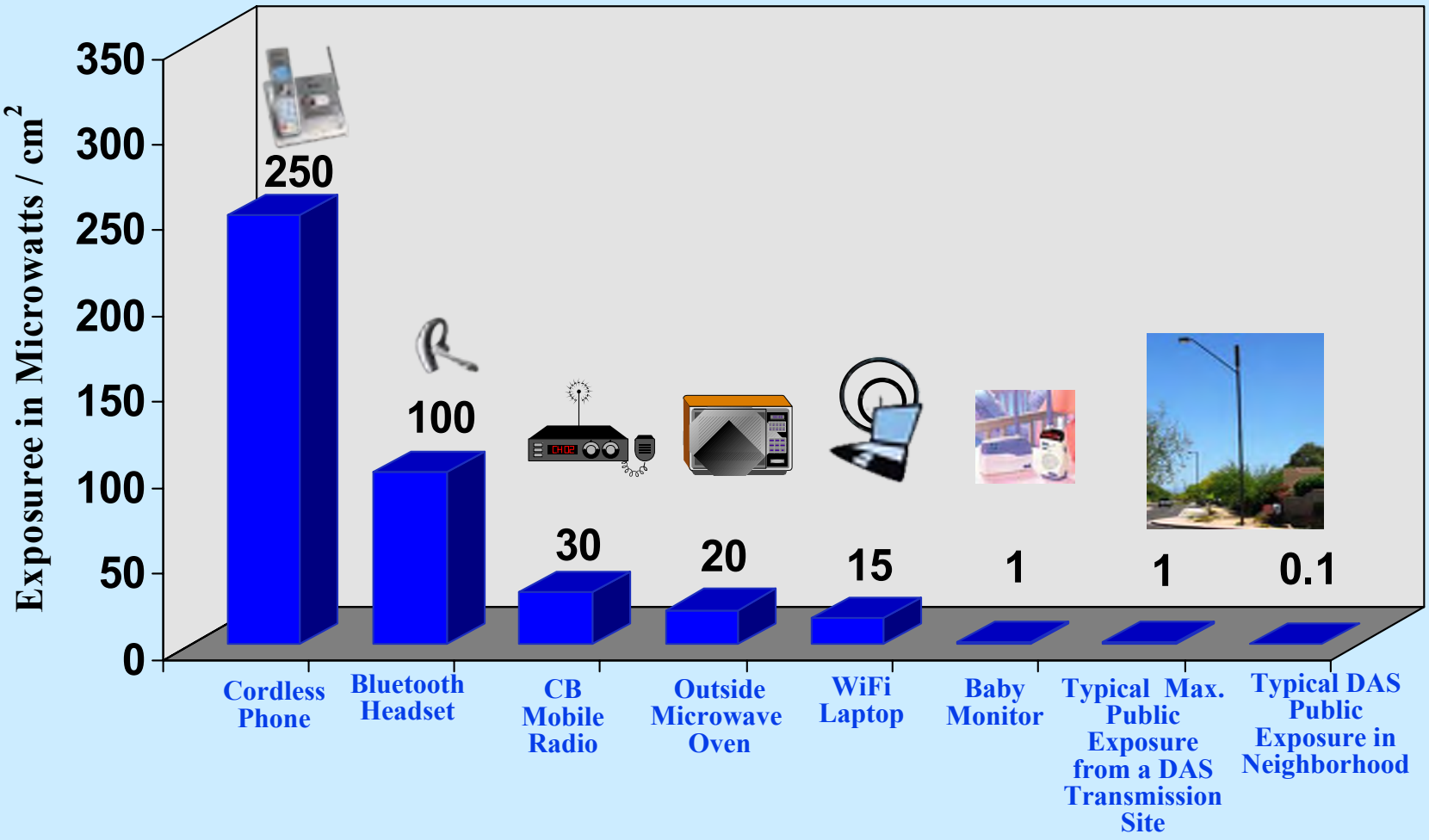


Figure 3

STATEMENT OF EXPERIENCE

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Dr. Jerrold Bushberg has performed health and safety analysis for RF & ELF transmissions systems since 1978 and is an expert in both health physics and medical physics. The scientific discipline of Health Physics is devoted to radiation protection, which, among other things, involves providing analysis of radiation exposure conditions, biological effects research, regulations and standards as well as recommendations regarding the use and safety of ionizing and non-ionizing radiation. In addition, Dr. Bushberg has extensive experience and lectures on several related topics including medical physics, radiation protection, (ionizing and non-ionizing), radiation biology, the science of risk assessment and effective risk communication in the public sector.

Dr. Bushberg's doctoral dissertation at Purdue University was on various aspects of the biological effects of microwave radiation. He has maintained a strong professional involvement in this subject and has served as consultant or appeared as an expert witness on this subject to a wide variety of organizations/institutions including, local governments, school districts, city planning departments, telecommunications companies, the California Public Utilities Commission, national news organizations, and the U.S. Congress. In addition, his consultation services have included detailed computer based modeling of RF exposures as well as on-site safety inspections and RF & ELF environmental field measurements of numerous transmission facilities in order to determine their compliance with FCC and other safety regulations. The consultation services provided by Dr. Bushberg are based on his professional judgement as an independent scientist, however they are not intended to necessarily represent the views of any other organization.

Dr. Bushberg is a member of the main scientific body of International Committee on Electromagnetic Safety (ICES) which reviews and evaluates the scientific literature on the biological effects of non-ionizing electromagnetic radiation and establishes exposure standards. He also serves on the ICES Risk Assessment Working Group that is responsible for evaluating and characterizing the risks of non-ionizing electromagnetic radiation. Dr. Bushberg was appointed and is serving as a member of the main scientific council of the National Council on Radiation Protection and Measurement's (NCRP). He is also a Scientific Vice-President of the NCRP, a member of the NCRP Board of Directors and chairs its committee on Radiation Protection in Medicine. In addition, Dr. Bushberg is a member of NCRP's scientific advisory committee on Non-ionizing Radiation Safety. The NCRP is the nation's preeminent scientific radiation protection organization, chartered by Congress to evaluate and provide expert consultation on a wide variety of radiological health issues. The current FCC RF exposure safety standards are based in large part on the recommendations of the NCRP. Dr. Bushberg was elected to the International Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR) which has as its primary area of responsibility the examination and interpreting the biological effects of non-ionizing electromagnetic energy and presenting its findings in an authoritative and professional manner. Dr. Bushberg is also a member of a six person U.S. expert delegation to the international scientific community on Scientific and Technical Issues for Mobile Communication Systems established by the Federal Communications Commission.

Dr. Bushberg is a full member of the Bioelectromagnetics Society, the Health Physics Society and the Radiation Research Society. Dr. Bushberg received both a Masters of Science and Ph.D. from the Department of Bionucleonics at Purdue University. Dr. Bushberg is certified by several national professional boards with specific sub-specialty certification in radiation protection and medical physics. Prior to coming to California, Dr. Bushberg was on the faculty of Yale University School of Medicine.