Health Physics News

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The Official Newsletter of the Health Physics Society

Not Just Boxes on the Shelf

HPS Archives Bring the Past to the Present

Mary Walchuk

Not to know what has been transacted in former times is to be always a child. If no use is made of the labors of past ages, the world must remain always in the infancy of knowledge. — Cicero (106 BC - 43 BC)

Cicero would be pleased to find out that Health Physics Society (HPS) members need not remain always in the infancy of knowledge. Through the labors of HPS Archivist Alex Boerner and many others, the labors of the past ages of the Society are available to members wishing to find what has been transacted in former times. A vast wealth of knowledge about the beginnings and growth of the HPS can be found in the Society archives stored at the University of Tennessee. Boerner shares information about the archives and his role in managing them.

Who started the Health Physics Society archives at the University of Tennessee? When and why?

Boerner: For those HPS members who don't care for a lot of detail, the short answer is some pretty important people got involved, they went to a lot of effort going back to around the early 1980s, and the rest is history!

Now that I have your attention, let me try to do a better job! I do not promise this is entirely accurate as I have spoken with several individuals and their recollections somewhat differ. In addition, there are HPS colleagues whom I was unable to contact or are no longer with us. But I believe this is reasonably correct and hope it will suffice.

First, I contacted Ron Kathren, who is always a good choice for a historical discussion. (Don't take that the wrong way, Ron.) As Ron recalls, the Society archives got started about 25 or so years back when he was the HPS historian. At the time, he was gathering up papers pertinent to the formation of the Society; these resided then in Oak Ridge, Tennessee. Some of our veteran HPS members will recall Natalie Tarr—she examined these files and pulled the relevant materials. These were sent to Ron in his position as historian. As Ron described it to me, he had acquired a "virtual treasure trove of materials" and realized that we needed some official repository and not his garage!!!

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In This Issue

From the President

The Trust Conduit

"I don't know anything about the subject, but I know he does and I trust him . . . and that's good enough for me"

I first came upon the trust conduit when at Oregon State University. I was working with the Oregon Department of Energy (ODOE) on issues relating to the transport of radioactive material to and from the Hanford radioactive waste site. We were training the emergency personnel on response to transportation accidents involving radioactive material, as well as dealing with some public concerns.

Just before crossing into Washington State, the truck route goes through the little town of Hermiston . . . right down 1st Street! It's well known that the public typically do not trust government and the ODOE was no exception. It is equally well known that the public does trust and respect firefighters. So what ODOE staff did was to actively work with the Hermiston fire chief. They educated him about radiation, trained his staff, and provided radiological emergency-response equipment. In this way, the fire chief became the trust conduit between the public and the ODOE. The result was the chief saying something like, *"Well, I'd prefer this stuff didn't come through town, but I think it's better that it's disposed of properly at Hanford, and if there is an accident my crews are trained and equipped to handle it."* This seemed to satisfy most people living in Hermiston and the rural surrounds. Wouldn't it be great if we as individuals and the Health Physics Society (HPS) could reach that status and be trust conduits for the public, public officials, and the media?

As you well know, trust can take a long time to grow. It was "easy" to write into the International Atomic Energy Agency's Security of Sources interim guidance[1] that people with access to certain higher level sources should be trustworthy and reliable. However, putting the words "trustworthy and reliable" into regulations has proved challenging for many agencies around the world. The Nuclear Regulatory Commission has bitten the bullet, picked a number, and stated: *"For individuals employed by the licensee for three years or less, and for nonlicensee personnel . . . trustworthiness and reliability shall be determined, at a minimum, by verifying employment history, education, and personal references."* So, the implication is that about three years is needed to gain a certain degree of trust.

But while trust takes years to grow, it can be cut down instantly. We have all seen the fortunes of political, religious, and business personalities rapidly decline upon revelation of some deed which betrayed the trust of their constituency, congregation, or employees.

The HPS Code of Ethics states: *"All relations with employers, coworkers, clients, governmental agencies and the general public shall be based upon and shall reflect the highest standard of integrity and fairness."* I believe that each of us should hold ourselves to "the highest standards of integrity and fairness" not only because it is the right way to behave, but also because that is the only way we can ever hope to become conduits of trust. For the same reasons, the HPS as an entity must maintain similar standards.

During the debate about producing the *Radiation Primer: A Citizen's Guide to Radiation* (*Health Physics News*, March 2007, page 2) we wondered whether or not the HPS had sufficient visibility and respect to be a conduit of trust or not, and whether bringing in other entities would help or hinder. In the end, while we believe that we *have* gained a high degree of trust with Congress and many agencies (from our visits and comments) as well as individual members of the public (from the Ask the Expert answers), it was decided to try and garner a greater degree of trust for the primer by broadening and diversifying its base of support.

It might take three years or 30 years to gain the trust of those we wish to be a bridging conduit between but I believe that it is a worthy goal . . . achievable one day, one person, one event at a time, but remembering that it only takes one mistake to destroy years of effort.

Brian Dodd

[1]Security of radioactive sources: Interim guidance for comment, IAEA-TECDOC-1355, IAEA, Vienna; 2003.

Not Just Boxes on the Shelf

(continued from page 1)

About the same time, Mr. James B. Lloyd, head of the "Special Collections" library at the University of Tennessee-Knoxville (UT), had started what is still known today as the "Archival Center for Radiation Studies." As part of that effort, the university would contact specific scientists and request their papers/publications. Ron was one of those contacted. He discovered the UT library contained the papers of Alexander Hollander and several other prominent scientists in health physics and radiobiology. That spurred Ron to contact Mr. Lloyd, visit him, and tour the UT archives. Ron determined that UT would be a suitable repository. Accordingly, he proposed this idea to the Society Board, which approved his recommendation. He then transferred the materials from his home to UT.

Following Ron's initial efforts, Newell Stannard and John Taschner paid their first visit to the archives at UT (and later more visits). Newell had followed Ron as Society historian and had begun working with John.

We can then move the timeline to the latter 1990s, when HPS Past President Paul Rohwer and Eric Abelquist visited UT to examine the archives and, among other things, solicit information from local chapters for inclusion in the archives. Paul and Eric are members of the East Tennessee Chapter HPS (ETCHPS), based in Oak Ridge, and that's an important point to note for this reason: up until that time, the principal efforts undertaken required Ron, Newell, and John to travel to UT from as far away as the West Coast. Managing archival material from that distance is problematic. So it appears that's when my local chapter became involved.

Let me add some comments here: I would be remiss if I did not emphasize to the membership the long-standing support to the HPS provided by Ron, Newell, and John in the archival area. Not only did Ron get the archives off the ground, he donated a significant portion of his own professional papers to UT. He also contacted all the living past presidents of the Society and asked them to donate their papers to the UT Archives. In addition, the American Board of Health Physics has sent archival materials to UT at his urging.

And what can you say about Newell? He touched the Society in many ways and offered significant archival information in his "Our Heritage" document, which can be found on the HPS Web site by going to www.hps.org. Once there, highlight "Who We Are" and then "Background"; then click on "Our Heritage." (As an aside, HPS History Committee Chair Ray Johnson has provided me with the honor of updating Newell's "Our Heritage" as some of the information is now outdated. Look for that update soon on the Web site.) Newell also donated many of his papers to UT. Lastly, among other activities, John toiled for years to catalogue photographs of Society members. Truly one tough task. Martha DeMarre, current History Committee member, is now continuing his efforts.

Well, I think that captures the origin of our archives pretty well and now answers the question: Who were those "important people"?

Is the UT location the only repository for the Society's archives? Were they ever located somewhere else?

Boerner: The answers to these questions are "no" and "yes" in that order. Our members should know that the placement of HPS archival materials at UT is rather recent. The University of Tennessee is considered the official HPS (and AAHP) archival location. The archives are located at the James D. Hoskins "Main" Library on the campus, specifically in the "Special Collections" library within Hoskins.

Several locations around the country predate the UT location. First, archival information of interest to the HPS can be found at Society headquarters in McLean, Virginia. These materials are actually stored at an off-site location. Washington State University (WSU) is another significant source. Ron Kathren, who is well acquainted with WSU, informed me that WSU has a collection of oral history interviews consisting largely of Hanford health physicists and radiation biologists now numbering in excess of 60. Via the Herbert M. Parker Foundation, an arrangement exists to exchange videotapes with the HPS. WSU also has considerable archival material from various individuals, including the extensive Barkev Sanders' collection and Sid Marks' papers (both of whom, according to Ron, were intimately involved with the controversial Mancuso study) and a few papers of Herb Parker. WSU also has a world-class historical collection of several thousand books and monographs pertaining to the radiological sciences, including the old Argonne radium dial painter materials. Ron has also donated a collection of approximately 3,400 items.

Where else can archives be found?

Boerner: Here's a few more places relayed to me. The Countway Library at Harvard University has the E. Dale Trout papers and books. These are very valuable from a health physics historical perspective. I do not know for certain, but the Countway likely contains other information.

Oregon State University has the Linus Pauling collection. That collection may be of peripheral interest to

Society members because of his efforts with respect to weapons-test fallout.

The Center for History of Physics in Washington, DC, has the Robley Evans papers and likely others with health physics associations.

At one time, videotapes of various continuing education classes were maintained at the University of Cincinnati. These have been transferred to Oak Ridge Associated Universities for at least the time being. Many HPS members will recognize Henry Spitz as a prime contributor and coordinator of these materials.

So, in short, UT is not the only repository. I'll add that I believe it unlikely that we will ever see a single repository.

When did you become the Society archivist?

Boerner: I became the archivist in 2001, replacing Eric Abelquist, who also happens to be my supervisor at the Oak Ridge Institute for Science and Education. Eric was the first "official" Society archivist, serving a three-year term. During his term, he provided an update to the membership on the archives—"HPS Archives in the Spotlight"—in the July 2000 HPS *Newsletter*. When Eric opted to run for Board of Directors, I threw my name in the hat as a candidate for archivist since I had a pretty good idea of what was involved.

Was it an appointed position? If so, who appointed you?

Yes, I was appointed. I was interviewed by Sydney Porter, the then-current chair of the History Committee, for the position. Syd then went to the Board of Directors to receive concurrence (at least I'm pretty sure that's what he did!). The position was for an initial three years. When that ended in 2004, I agreed to another term. I'm now approaching the end of that second term.

Is the position volunteer or paid?

Boerner: As my health physics colleagues might strongly suspect, this is a volunteer position. I volunteer my time at the university to support this effort.

Does the Society support you with any expenses you might incur?

Boerner: The Society supports me, through the History Committee budget, with miscellaneous expenses I incur. Those essentially consist of two things: parking charges on campus and reimbursement for personal vehicle mileage. UT is approximately 20 miles one way from my home in West Knoxville (and farther from Oak Ridge). In times past, gasoline expenses weren't a big issue. Today, however, getting some assistance in this area is appreciated! The History Committee budgets about $100 annually in this area, so in my opinion it is not a big outlay to the membership for the associated benefit.

What is the relationship of the archivist to the HPS History Committee?

Boerner: The archivist is an official member of the History Committee and supports the chairman and the other members as needed. Ray Johnson is the current chair.

What are your responsibilities as archivist? How do you go about leading this effort?

Boerner: Officially, I'm referred to as the HPS "Archival Liaison" on the History Committee. The duties of the archival liaison are to supervise, help maintain, add new material, and contribute to the "general health" of the Society's archival collection at the University of Tennessee.

When I have materials to add to the collection (or materials I need to find), I contact the library, coordinate a time I can stop by and spend up to several hours, and then manage the effort.

How are the archives set up?

Boerner: It's nothing fancy, but it works! The university provides us with an area to store our materials in the basement of the Hoskins Library. I typically access this area from the second floor of the Special Collections area using the small (and ancient?!) elevator (see photo). The materials are placed in boxes, numbered, and placed on shelves provided by UT. In case you're wondering, none of the HPS materials are in a climate-controlled room, but neither are any of the materials belonging to the university itself that are located in the same general area. I must say that, at least during my time as archivist, I have not noticed any particular effects of the basement environment on the deterioration of the materials.

Chuck Roessler and Alex Boerner emerge from the archives elevator.

I hope this brief description gives the membership a visual representation of the archives' physical location and how they are arranged and stored (see photo page 5).

What is in the archives?

Boerner: The collection currently consists of more than 40 boxes containing a wide variety of archival material. This includes annual and midyear meeting information, membership handbooks, Board of Directors meeting minutes, newsletters, summer school proceedings, and local chapter information, to name a few examples. Each box is numbered and a brief description is placed on the box. Many boxes contain information in individually labeled "folders." The boxes and their contents are arranged and numbered sequentially as material becomes available and by general subject category. I record for my purposes when I visited the archives and the date I added materials. Otherwise, that information is not placed on the boxes. While our classification system is certainly not "high tech" at this time, and ideally will be improved, it is adequate for the time being.

How do items become part of the archives?

Boerner: That can happen in several ways. I can proactively solicit materials for the archives (and I'm doing that right now from the membership!), or I'm contacted about an addition. Either way, I have materials shipped to me or, in most cases, directly to UT. I coordinate any transfers with the university so they don't disappear!

If someone would like to make a donation to the archives, what is the procedure?

Boerner: It's not difficult. First, I need individuals to specifically tell me they want that material to be donated to the HPS, and not, for example, to the university. If the latter, the university has ownership; accessing and borrowing that material from UT-Knoxville has associated restrictions. For example, you may not know that the K.Z. Morgan collection—painstakingly catalogued by HPS Past President Roger Cloutier into over 200 boxes—was donated by his family to UT, not the HPS.

Once the ownership issue is resolved, including relaying that fact to the university, I coordinate the transfer and work with the staff in Special Collections at UT to add it to our designated physical collection. The material is placed in a box and gets assigned a new "box number." I then update the addition by notifying HPS Webmaster Fred Baes. Once Fred takes care of that, HPS members can go to the HPS Web site and identify the addition or contact me for periodic updates.

Here's a great example. Earlier this year, the family of Newell Stannard initiated a valuable addition to the HPS archives. Newell's daughter, Dianne Eppler, coordinated the transfer of designated materials to UT with the assistance of George Anastas and Ray Johnson. George had begun the effort months before, serving as a conduit between the family and the History Committee. Dianne actually shipped the materials to Ray who subsequently transported them by car to the Knoxville midyear meeting in January. Ray and I then got together to visit the archives and personally deliver the materials.

Where can HPS members find out what information is in the archives?

Boerner: Here's what you do! Go to www.hps.org; highlight "Who We Are" and "Background" and then click on "HPS Archives." The current listing of boxes and generally what they contain is described. I say "generally" because we are not prepared at this time to catalogue every single item within a given box number.

How are requests for archival information handled?

Boerner: I typically get a phone call from someone looking for a publication or another piece of information. Ordinarily when that happens, I review the archival information, determine where in the archives it might or should be, then contact Mr. Bill Eigelsbach at UT. Bill's assistance is important simply due to the distance involved between my workplace and the university. Bill will head down literally into the bowels of the library—using that small, antiquated elevator—and let me know what's available. Sometimes we're successful—sometimes. . . . I then get back with the requestor and close the loop.

Bill Eigelsbach and Alex Boerner going through files in the archives.

Can members visit the archives to look for information about the HPS?

Boerner: Absolutely! Our most recent visitors included my History Committee "boss," Ray Johnson, and Chuck and Gen Roessler. They received the grand tour during the January 2007 Knoxville midyear meeting.

Being in town anyway obviously made their visits convenient. For many Society members, however, visiting the archives requires much more effort!

I will also mention that the archives came in handy when Ron Kathren and I were working on the 50th anniversary history article a few years ago. Ron flew into Knoxville expressly for that purpose (then we flew together to McLean, Virginia, to continue our research). Material from the archives was also used extensively by the *Health Physics News* staff for the 2006 series of historical newsletter articles.

Do you have ideas for ways to make the archives more available to HPS members?

Boerner: It's a challenge for sure and perhaps the most troubling for me to resolve. It's more than fair for anyone to ask, "Why go to the trouble to have the archives if I can't access its contents conveniently?" Perhaps with this article, some serious discussions can be held as to how to get that done. Since the majority of the membership and others interested in the archives are not physically located near the archives, one solution would be scanning the entire collection, as discussed later.

Do other Society members act as assistants to help with the archives?

Boerner: It's been pretty much a "one man show." I personally have not actively requested significant assistance from Society members at the UT archives location because I recognize we all lead busy lives. However, I do solicit information from my colleagues, primarily through phone and email dialogues. Having said that, to take the archives to the next level, it will likely require greater HPS (especially local chapter) support.

Are there any challenges in your job as archivist?

Boerner: Frankly, I wish I had more time to devote to this task. The Special Collections library at the university, for lack of a better term, maintains "bankers' hours." It is open from 9 a.m. to 5 p.m. Monday through Friday. Having access to the collection after a normal work day or on weekends would certainly help me, but that isn't doable right now. I do my best to get by UT once per quarter on average and typically on a Friday. Having additional assistance, at least short term, would help, especially to expedite certain tasks that progress more slowly than I would like.

There are also space restrictions. Therefore, when I communicate with a local chapter, we discuss what materials are of most importance (for example, the chapter's charter) that will initially, and perhaps ultimately, reside in a single box. Regrettably, we simply cannot accept the "universe" of a chapter's holdings.

What do you find most interesting about being the HPS archivist?

Boerner: That's an easy one to answer. When I visit the archives, I find myself exploring the legacy of the HPS by examining materials going back to the early, formative days. For example, the first conference at the Ohio State University, names of those individuals registered for early meetings, the costs for a hotel room or to have a banquet in the 1950s and 1960s. I'd love to have those same prices today!

What do you like most about being HPS archivist?

Boerner: I appreciate the opportunity I've been given by the HPS. The archivist is an important position that I believe will only become more significant with time. I must also admit I enjoy the excuse to set foot on the campus of the University of Tennessee Volunteers where I received my master's degree in radiation biology some years ago! I would also be remiss if I did not let our Society members know of the valued assistance I routinely receive from Bill Eigelsbach. Bill is a pleasure to work with and has a very good sense of humor and I consider him a friend. Not to mention his long-standing expertise when it comes to archival matters.

Do you have recommendations for improving the archives?

Boerner: Several recommendations come to mind. First, I would like to re-order all the materials as they currently exist in their individual boxes. Right now, similar items get separated in the box number sequence because the box I'd like to put some items in is too full, forcing me to put them in a later box. That is a manageable goal and I expect to see that happen in the next year.

Secondly, I would like to expedite a goal we've had since the beginning, which is acquiring relevant archival information from the individual chapters and HPS sections. Currently, only a few of the chapters are represented. However, that is also a manageable goal.

Thirdly—and this is huge—scanning the contents of each box would be a major advancement, albeit an extremely time-consuming one. If accomplished, it would provide a vehicle to electronically send the requested materials and solve the accessibility issue. Getting there is the key!

I'll close with a communication need, namely the fundamental issue of providing the membership with more visible and consistent updates, perhaps quarterly as a short article in *Health Physics News*. That forum could also be used to reach out for additional archival materials

and notify the membership of materials successfully donated. As one example, the holdings of the American Association of Physicists in Medicine overlap to a degree with health physics.

What are some of the most exciting plans for the future for the archives?

Boerner: I am hoping we can get the UT-Knoxville Student Branch re-energized. The issue has been recently discussed with HPS colleagues within the Nuclear Engineering Department at the university. If that were to happen, the students, due to their close proximity to the Special Collections library, would be an important resource. I could easily envision having an HPS/ETCHPS member coordinating archival updates with the students. To make it more appealing, the HPS might also consider compensating these students!

How long do you expect to be the HPS archivist?

Boerner: That's a very timely question! After six years, I believe it is time to move on. I would like to pursue other opportunities within the Society. I relayed that request earlier this year to History Committee Chair Ray Johnson and HPS President-elect Kevin Nelson. At this time, we are all looking for a candidate to replace me, emphasizing members of the East Tennessee Chapter and the University of Tennessee-Knoxville Student Branch. We'd like to see that happen by the annual meeting in Portland. Regardless, I will assist with any transition and am more than willing to do that.

What qualities should someone who wishes to be the next HPS archivist have?

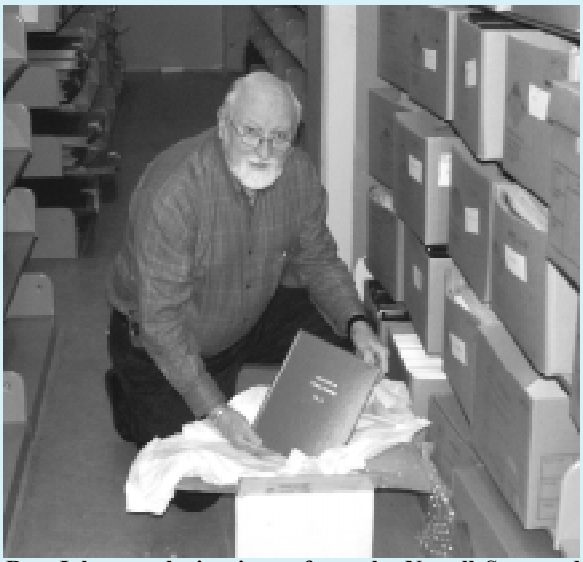
Boerner: First, let me say that, in my view, the individual would ideally have an interest in this sort of thing. It's not for everyone. The position requires someone who has been a part of the HPS long enough to appreciate and enjoy its history.

Now to your question. Several qualities do come to mind. They include being detail-oriented, committed, responsive, and trustworthy (I am permitted to remove HPS archives from UT, but I'm expected to return them!) A person who strives for achieving successful and measurable outcomes in his/her job would be a good fit for the archivist position.

Donation of Dr. J. Newell Stannard's Collected Works

Ray Johnson, CHP, History Committee

The Stannard family (Dianne Eppler, Bonnie DesRosiers, Susan Frazier, and Brenda Hanisee) has made a very generous contribution of four bound volumes of the collective writings of Dr. J. Newell Stannard. The Society is greatly honored to receive these volumes. Not only was Newell one of the world's most distinguished scientists in the field of radiation safety, he was also a devoted member of the Health Physics Society, serving in many capacities, including the presidency in 1969-1970. His writings represent a very significant resource for future historical reference spanning the entire history of the Society's first 50 years, from 1955 to 2005.



Ray Johnson placing items from the Newell Stannard contribution on the archives shelves.

We feel that he would be well pleased to know that his important contributions to science will be preserved by the Society. His collective writings will also help preserve our memory of him as an erudite scholar, teacher, mentor, leader, and dear friend to many in the profession who had the privilege of knowing him over the years. The volumes of his writings will be preserved in the Society archives at the University of Tennessee.

To acknowledge their wonderful gift, the four family members were each sent a nicely framed letter of appreciation signed by HPS President Brian Dodd. Thanks are also due to George Anastas for discussions with the Stannard family that resulted in this donation.

Agency News

NRC News

Cynthia G. Jones, PhD
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Status and Plans for Implementation of NRC Regulatory Authority for Certain Naturally Occurring and Accelerator-Produced Radioactive Material

Andrew Mauer

On 8 August 2005, President George W. Bush signed into law the Energy Policy Act of 2005 (EPAct) on "Treatment of Accelerator Produced and other Radioactive Material as Byproduct Material." Section 651(e) of the EPAct expanded the definition of byproduct material as defined in the Atomic Energy Act of 1954 (AEA), as amended, and placed additional byproduct material under the NRC's jurisdiction.

On 20 March 2007, the US Nuclear Regulatory Commission (NRC) issued a Regulatory Issue Summary (RIS) 2007-05 to inform recipients of the status of the NRC's efforts to implement the requirements of section 651(e) of the EPAct. The RIS, along with a list of "Frequently Asked Questions," is available for review at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2007/ri200705.pdf. You may also access the "NARM Toolbox" at the NRC's Office of Federal and State Materials and Environmental Management Programs (FSME) Web site at http://nrc-stp.ornl.gov/narmtoolbox.html for additional information.

Regulations: Section 651(e) of the EPAct requires that NRC issue final regulations establishing requirements for licensing and regulating section 11e.(3) and 11e.(4) byproduct material, while cooperating with the states and using model state standards to the maximum extent practicable. NRC has made significant progress toward completion of the final regulations, which are currently expected to be published in spring 2007. The final regulations will become effective 60 days after the date of publication and will be posted to NRC's Public Involvement Rulemaking Web site (http://www.nrc.gov/about-nrc/regulatory/rulemaking/public-involvement.html). Throughout the rulemaking process, NRC has actively worked with both Agreement States and non-Agreement States, through the Organization of Agreement States and the Conference of Radiation Control Program Directors, as well as with NRC's Advisory Committee on the Medical Uses of Isotopes, other federal agencies, professional organizations, and the medical community.

Waiver: As provided for by the EPAct, NRC issued a waiver on 31 August 2005 (70 FR 51581) to (1) allow states to continue with their regulatory programs for NARM, (2) allow persons engaged in activities involving NARM to continue with their operations in a safe manner, and (3) allow continued use of radiopharmaceuticals for medical purposes. The waiver is in effect through 7 August 2009, unless NRC terminates it earlier.

The Commission plans to terminate the waiver in phases, after the final rule is issued, starting from the effective date of the rule and ending on 7 August 2009. During the initial phase of waiver terminations, NRC intends to terminate the waiver for Federal Government agencies, Federally Recognized Indian Tribes, Delaware, the District of Columbia, Puerto Rico, the US Virgin Islands, Indiana, Wyoming, and Montana.

At this time, the timing and schedule for waiver terminations for the remainder of the non-Agreement States and US territories have not been established. A notice in the *Federal Register* will be published approximately six months before the effective date of the waiver termination to notify users of their waiver terminations and implementation dates of the rule.

Upon waiver termination, all persons who possess the new byproduct materials in these states, US territories, or areas of exclusive federal jurisdiction must be in compliance with NRC regulations, including, for example, meeting the reporting and recordkeeping requirements for the new byproduct material. Such persons will also either be required to (1) apply for license amendments for the new byproduct material within six months from the date the waiver is terminated, if they hold an NRC-specific byproduct materials license, or (2) submit a license application for the new byproduct material within 12 months from the date the waiver is terminated.

In conjunction with the effective date of the final rule, NRC also intends to terminate the waiver for any of the 34 Agreement States that provide a certification from

their governor to NRC as described in the EPAct and the NRC's Transition Plan mandated by the EPAct (see below). Users of new byproduct materials in Agreement States should contact their respective Agreement State regulatory agency with any questions related to plans for continuing to regulate these materials.

Transition Plan: The EPAct requires NRC to prepare and publish a transition plan to facilitate an orderly transition of regulatory authority with respect to the newly added byproduct material. NRC continues to coordinate with the states and anticipates that the final Transition Plan will be published in conjunction with the final regulations in the *Federal Register*.

Supportive Activities: The NRC staff is also working on several activities that will be needed to support NRC's new regulatory authority. Specifically, the NRC staff is working on finalizing revisions to guidance contained in NUREG-1556, Volumes 9 and 13, and developing a new NUREG (NUREG-1556, Volume 21) which will focus on the production of radioactive material using an accelerator.

The NRC staff is also planning to make minor revisions to other guidance documents and procedures to reflect the regulation of the new byproduct material.

Contacts: Andrew Mauer or Duane White, US Nuclear Regulatory Commission, Office of Federal and State Materials and Environmental Management Programs, 301-415-3962 or 301-415-6272; email: anm@nrc.gov or dew2@nrc.gov.

Inside the Beltway

David Connolly
Washington Representative
Capitol Associates, Inc.

Returning to the theme of last month's column about the workings of the United States Senate and the Majority Leader's role in the operation of that body, a word on the present Majority Leader, Senator Harry Reid (D-NV), is in order. Simply put, Senator Reid is diametrically opposed to the placing of the national nuclear high-waste depository any place in the state of Nevada, much less Yucca Mountain. As we discussed, the determined opposition of one Senator can have a major effect on the ability of a piece of legislation to be passed by the Senate; when that Senator also happens to be the Majority Leader, the effect of the opposition increases tenfold.

Turning to the present situation with Yucca Mountain itself, the Department of Energy (DOE) has asked for an appropriation of $495 million for the fiscal year 2008 to keep the project on track. The next major milestone for the storage site is the submission by the DOE of a license application by 30 June 2008 to the Nuclear Regulatory Commission (NRC) to begin major construction of the facility. To date, the funding that has been expended has been on design, testing, minor construction, and litigation. In order to alleviate the funding drain on the DOE, the Administration is seeking approval of the Congress to begin to tap into the Nuclear Waste Fund (NWF) as the main source of funds to build and operate Yucca Mountain. You may recall that the NWF is a trust fund administered by the Federal Government that derives its money from a surcharge imposed on the rate payers of electricity furnished by nuclear power plants.

In order to access this trust fund, legislation must be passed by the Congress; additionally, any significant changes to the project must also get legislative approval. One such change would be to expand the storage capacity of Yucca Mountain to 120,000 metric tons of waste, an almost 40 percent increase in its present authorized level.

Since the Yucca Mountain funding request for the fiscal year 2008 is only a small item contained in the much larger appropriation bill covering the entire DOE and much of the Army Corps of Engineers, there is not much chance that an individual Senator, even the Majority Leader, could prevent passage of the bill. However, once the Administration submits its legislation to tap into the NWF and increase storage capacity, a significant impediment to it coming before the full Senate is Senator Reid himself.

Over the past few weeks, federal officials from both the DOE and the NRC have testified in both the House and the Senate telling the Members of Congress that without the Yucca Mountain storage capability, there can be no increase in the present amount of electricity generated by nuclear power plants. In other words, without a depository, no new plants can be built. With the great public concern about the greenhouse effect, many Members of Congress have become supporters of nuclear power as part of the solution to this problem. It appears that before this goal can be reached, a mountain may have to be moved and that mountain is Senator Harry Reid.

"Health Concerns about Wireless Networks Would Seem to Be Moot"

Gen Roessler

What would you do if you received a question from a member of the public about the possible health risks of wireless computer networks? These networks are all over—in our homes and schools and even in many public places. You can understand why people might be concerned about them. But, how do you answer questions they might have?

The Health Physics Society (HPS) Web site Ask the Experts (ATE) feature receives these questions too. Several examples follow:

Q. We have a wireless network access point in our bedroom. The transmitter is located eight feet from where my pregnant wife sleeps. Is there any risk to her?

Q. I teach computer literacy in a junior high school. All computers are connected to the network using a wireless connection. There are a total of 31 computers in the lab. Does the technology being used in a wireless communication environment affect my ability to become pregnant or the health of my baby if I do become pregnant? Does the exposure pose the possibility of a miscarriage? If it does, what measure can I take to protect myself?

Q. I am 10 weeks pregnant and work from home. I typically work sitting up in bed with my laptop computer resting on my upper legs. My laptop has a wireless Internet card for a connection to the Internet. Does the proximity of this wireless Internet connection to my unborn child pose a health risk for the baby?

These questions were answered by our ATE Pregnancy and Radiation Topic Editor Robert R. Brent, MD, who explained that there are no health concerns. I knew further help was on the way when I received the March 2007 issue of *Health Physics* and saw the article "Radiofrequency Exposure from Wireless LANS Utilizing Wi-Fi Technology," by HPS member Kenneth R. Foster. I was looking for the bottom line so went to the end of his discussion section and found this:

> "Given the low level of exposure to people from WLANS in comparison to other sources of RF energy that are ubiquitous in modern environment, any health concerns would seem to be moot."

That's a pretty clear answer that we can provide on ATE. I thought it would also be helpful to our Web site readers if we had a short summary article at the public level to post. I contacted Dr. Foster and he provided the article below. We have it posted as an information sheet at http://hps.org/publicinformation/ate/cat63.html.

We hope it will be helpful to you, our newsletter readers, too when you have to field questions about wireless networks.

Human Exposure to Radiofrequency Energy from Wireless Local Area Networks

Kenneth R. Foster
kfoster@seas.upenn.edu
Professor of Bioengineering , University of Pennsylvania

Wireless computer networks have become commonplace in our environment. Wireless hotspots are found in many public areas and, increasingly, in homes and schools. Wireless networks use low-powered radiofrequency (RF) transmitters called access points to communicate with other low-powered transmitters called client cards that are located in users' laptop computers or other portable equipment. Nearly all of these wireless networks use Wi-Fi technology, although other wireless technologies are coming into use as well.

Despite the very low power at which wireless networks operate, some citizens have questioned the possibility that the RF signals associated with the networks might pose a health threat. This column addresses those concerns.

The question of possible health effects of RF signals from Wi-Fi networks has two parts: What levels of exposure do people experience from the networks? What are the possible adverse effects of the RF energy from the networks on the human body?

Wireless networks operate at low power levels and, consequently, the levels of exposure to users of Wi-Fi-equipped computers are low. Other people, who are not using Wi-Fi-enabled equipment, experience still lower exposures to RF energy. The maximum power output of client cards (located in computers) or access points (typically located in

the ceiling of public areas with hotspots) is typically lower than the maximum power output of most mobile telephones. Moreover, this signal characteristically falls off as the square of the distance of the user to the antenna of the transmitter.

Another factor serves to limit public exposure to Wi-Fi fields: the very small fraction of time that the client cards or access points are actually transmitting signals. A number of factors limit the fraction of time that a particular client card or access point is transmitting energy. This includes the requirement that only one transmitter (client card or access point) is operating at a particular time, limitations in the capacity of the wired network to which the wireless network is connected, and error correction schemes used by the network.

Consequently, a laptop containing a wireless client card invariably produces far smaller exposures to the user than does a mobile phone handset operated at the same distance from the body. Because of the greater distance of an access point to the user, the exposures produced by access points are far lower still. In fact, surveys show that RF fields from Wi-Fi networks in ordinary environments are nearly always smaller than fields in the same area from nearby cellular base stations, broadcast transmitters, and other commonplace sources of RF energy.

In 2006 I conducted an industry-supported survey of RF field levels in urban and suburban areas in four countries (United States, France, Germany, Sweden) (Foster 2007). The survey made 356 measurements of background RF signals at 55 sites: private residences, commercial spaces, health care and educational institutions, and other public spaces. Measurements were conducted in public spaces as close as practical to access points.

The results, which are detailed in the *Health Physics* paper cited below, show that in all cases the measured Wi-Fi signal levels were very far below international safety limits, specifically, those of the Institute of Electrical and Electronics Engineers and the International Commission on Nonionizing Radiation Protection (ICNIRP 2002). These limits were designed to protect against all known hazards of RF energy. In nearly all cases these signals were also considerably lower than those from other nearby sources of RF energy, including cellular telephone base stations.

Concerns about possible health risks from exposure to low levels of RF fields in ordinary environments have been expressed by a number of individuals over the years in connection with many technologies that use RF energy. To address such concerns, health agencies around the world have repeatedly reviewed the scientific literature and found no convincing evidence of any health hazards from RF fields below international safety limits. For example, the World Health Organization stated recently in a fact sheet that "no health effects are expected from exposure to RF fields from [cellular] base stations and wireless networks" (WHO 2006).

A few individuals have reported that RF signals from Wi-Fi and other low-level sources of RF fields can trigger allergy-like reactions—a phenomenon called electrical hypersensitivity. This is a complex issue that scientists have studied with respect to low-level RF fields from various sources for a number of years.

While the distress of electrically hypersensitive individuals is very real, controlled studies have failed to connect their symptoms to the exposure to fields. These studies show that the symptoms appear to be associated with whether the individual believes that he/she is being exposed, rather than the actual exposure. The WHO fact sheet quoted above states that "[electromagnetic fields] have not been shown to cause such symptoms. Nonetheless, it is important to recognize the plight of people suffering from these symptoms."

Thus, electrical hypersensitivity is a complex psychosocial phenomenon, not a straightforward toxicity response to RF fields. Indeed, given the presence of RF fields from many sources in the environment, many stronger than fields from wireless networks, it is difficult to imagine that wireless networks by themselves could be a cause of significant health problems or that an electrically hypersensitive individual could reliably identify wireless networks as the cause of his/her problems.

I conclude that levels of exposure of citizens to RF fields from wireless networks is far below international safety limits. Moreover, in nearly all of the places that I surveyed, the Wi-Fi signals were far below other RF signals that were present from other sources. Given the low level of exposure to people from RF fields from wireless networks in comparison to that from other sources of RF energy that are ubiquitous in modern environment, any health concerns about wireless networks would seem to be moot.

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Destination Portland: Land of Plenty (Things to Do!)

Lars Winans, CCHPS Member

When you come to Portland you'll find that the old saying in real estate holds true: "Location, location, location." Within no more than an hour's drive this summer, you can climb a mountain or rock wall, roam a beach, golf, fish, snow ski, water ski, wind surf, mountain bike, hike to the top of a magnificent waterfall, or even soak in a geothermal hot springs. Summer brings our longest days, lasting nearly 16 hours, and you might be tempted to try too many of these activities in a single day. A tour of our local volcano, Mount St. Helens, is also a fun way to pass a day in the Northwest. Another attraction is Fort Clatsop near Astoria at the outlet of the great Columbia River where Lewis and Clark wintered in 1805.

You will find that Portlanders are keen on the environment. Many of us commute to work by bicycle or use the two wheelers to stay fit. Portland is a very bike-friendly town. Many outlets rent bicycles for the day or week. Besides walking and biking, getting around town is easy with our MAX light-rail system. In coming to the meeting, the easiest way to get there will be to take advantage of the direct connection between the Portland airport (PDX) and the hotel/Convention Center. We expect many attendees to take advantage of the city transit free-ride zone (called Fareless Square) which includes the Convention Center, downtown hotels, businesses, sports arenas, theaters, Saturday Market, and fine restaurants and cafés on both sides of our Willamette River.

With so much to do in the summer, you might wonder what we do in the winter when the days are short and wet. Indoor rock walls, gyms, and fitness centers are popular in Portland, and many are within walking distance of the Convention Center. Other indoor "sports" include Powell's Books—one of the largest book stores in North America—vibrant art, theater and music scenes, and of course, movies. There are also three area universities here: Oregon Health and Science University, Portland State University, and University of Portland, along with Portland Community College mini campuses scattered around town, all of which are easily accessible on foot, by car, or by public transportation.

Indoor and outdoor enthusiasts alike take advantage of the huge array of microbreweries which make this city famous; some of the most popular are within stumbling distance of the DoubleTree. The Oregon Museum of Science and Industry with its Omnimax Theater is a nice walk along the Eastbank Esplanade from the Convention Center. The Oregon Zoo can be reached by car or bus and offers varying programs to occupy time on a rainy day. Check out the Cascade Chapter of the Health Physics Society Web site (hpschapters.org/cascade/2007hps/index.html) for more information.

Here you will find a city that is not too big, not too small—it may be new compared to the global scene, but it is fresh, livable, and just right for fans of indoor or outdoor activities. Come and enjoy.

Mount Hood over Portland

Think of Jack London in Winter 2008

Jim Tripodes

"I would rather be ashes than dust! I would rather that spark should burn out in a brilliant blaze than it should be stifled by dry-rot. I would rather be a superb meteor, every atom of me in magnificent glow, than a sleepy and permanent planet. The proper function of man is to live, not exist. I shall not waste my days in trying to prolong them, I shall use my time."

– Jack London (1876-1916)

Did you know that between his wilderness and seafaring adventures, Jack London grew up in Oakland and spent most of his life in the San Francisco Bay Area? If you enjoyed reading his books and short stories as much as I did (and still do), you might want to follow the wolf tracks to his Klondike Cabin at Jack London Square while attending the 2008 Health Physics Society (HPS) Midyear Topical Meeting, "Radiation-Generating Devices" (27-30 January), and the HPS Professional Development School, "Topics in Accelerator Health Physics" (31 January–2 February), cohosted by the Accelerator Section and the Northern California Chapter, at the Oakland Marriott Convention Center. For more information about the midyear meeting, the professional development school, and links to local attractions, go to http://hpschapters.org/2008midyear.

Just a leisurely walk or short cab ride from your hotel, Jack London Square has excellent waterfront restaurants, entertainment, shops, and other interesting attractions, including FDR's "Floating White House," the USS Potomac. Although we can't guarantee sunny skies by the bay, you certainly won't need any snowshoes unless you choose to travel to the majestic Sierra Nevada Mountains!

Oakland waterfront, including Jack London Square and the USS Potomac Photo by Jeff Deusen courtesy of the Oakland Convention & Visitors

For information about Jack London Square, go to http://www.jacklondonsquare.com/. To learn more about Jack London's colorful life and read some of his stories, go to www.jacklondons.net. To view a short video of his ranch, now a California State Park in nearby Sonoma County, go to http://www.jacklondons.net/museum.html.

FDA Proposes Rule to Change Requirements for Labeling Irradiated Food Products

The Food and Drug Administration (FDA) announced in the *Federal Register* that it is proposing to revise its labeling regulations applicable to foods (including dietary supplements) for which irradiation has been approved by the FDA. FDA is proposing that only those irradiated foods in which the irradiation causes a material change in the food, or a material change in the consequences that may result from the use of the food, bear the radura logo and the term "irradiated" in conjunction with explicit language describing the change in the food or its conditions of use. FDA is also proposing to allow a firm to petition FDA for use of an alternate term to "irradiation" (other than "pasteurized"). In addition, FDA is proposing to permit a firm to use the term "pasteurized" in lieu of "irradiated," provided it notifies the agency that the irradiation process being used meets the criteria specified for use of the term "pasteurized" in the Federal Food, Drug, and Cosmetic Act (the act).

Comments on the proposed rule must be submitted by 3 July 2007. See www.fda.gov/OHRMS/DOCKETS/98fr/07-1636.pdf.

ICRP Approves New Fundamental Recommendations on Radiological Protection

At its meeting in Essen, Germany, 19-21 March 2007, the International Commission on Radiological Protection (ICRP) approved a new set of fundamental Recommendations on the protection of man and the environment against ionising radiation. These Recommendations will replace the Commission's previous Recommendations from 1990.

"The decision on Wednesday afternoon to approve the new Recommendations marks the completion of a project that started 9 years ago and included an unprecedented two rounds of completely public, world-wide consultation on earlier drafts," said ICRP Chairman Dr. Lars-Erik Holm. "The value of the advice we have received during these consultations, from numerous international and national organisations, from professional bodies, from experts and interested laymen, cannot be overestimated."

The new Recommendations take account of new biological and physical information and trends in the setting of radiation standards. While much more information is available now than in 1990, the overall estimate of the risk of various kinds of harmful effects after exposure to radiation remains fundamentally the same.

The three basic principles of radiological protection are still justification of activities that could cause or affect radiation exposures, optimisation of protection in order to keep doses as low as reasonably achievable, and the use of dose limits. The new Recommendations feature an improved and streamlined presentation, give more emphasis to protection of the environment, and provide a platform for developing an updated strategy for handling emergency situations and situations of preexisting radiation exposures.

After copyediting, the new Recommendations will be published in the Commission's journal, the *Annals of the ICRP*.

Contact person: Dr. Jack Valentin, Scientific Secretary of ICRP (scient.secretary@icrp.org or phone: +46 8729 7275).

The Main Commission of ICRP in Essen. Left to right, Professor Jaiki Lee (South Korea), Professor Yasuhito Sasaki (Japan), Dr. Hans Menzel (observer, Switzerland), Professor Christian Streffer (Germany), Dr. Nataliya Shandala (Russian Federation), Dr. Julian Preston (United States), Dr. Annie Sugier (France), Dr. Abel González (Argentina), Professor Jan Pentreath (United Kingdom), Dr. Jack Valentin (Scientific Secretary, Sweden), Dr. Lars-Erik Holm (Chairman, Sweden), Dr. Claire Cousins (United Kingdom), and Dr. Roger Cox (United Kingdom). Professor Ziqiang Pan (China) and Dr. John Boice (United States) also participated in the decision to approve the Recommendations.

NCRP Releases Report No. 154

Cesium-137 in the Environment: Radioecology and Approaches to Assessment and Management [1]

Cesium-137 (^{137}Cs) is the most important long-term contributor to the environmental radiation dose received by humans and other organisms as a result of nuclear reactor operations and weapons testing. Over the past few decades, ^{137}Cs has been the most abundant residual radionuclide at many facilities in the nuclear weapons complex of the US Department of Energy (DOE), at nuclear fuel reprocessing facilities, at nuclear reactor sites, at many radioactive waste disposal sites, in soils worldwide as a result of global fallout from historic nuclear weapons testing, and in the former Soviet Union and other locales in Europe as a result of the Chernobyl accident. In addition, there is concern about the use of ^{137}Cs by terrorists to create a so-called "dirty bomb."

The primary source of ^{137}Cs in the biosphere is atmospheric nuclear weapons testing by the United States and by the former Soviet Union from the 1940s to the 1960s. Of the roughly 1 EBq (10^{18} Bq) of ^{137}Cs released to the biosphere, about 90 percent was produced by atmospheric testing. Approximately 6 percent was produced by the Chernobyl accident and roughly 4 percent by nuclear fuel reprocessing facilities. Of the nuclear reactor accidents, the Chernobyl accident on 26 April 1986 in the Ukraine released far more radioactivity, including ^{137}Cs, to the environment than all other nuclear accidents combined.

In addition to its relative abundance, ^{137}Cs has characteristics that enhance its importance as a major contributor to radiation dose. For example, it has a moderately long half-life (~30 y), it emits relatively high-energy beta particles, its very short-lived daughter, ^{137m}Ba, emits a strong gamma ray and, because of its chemical properties, it is readily transported through the environment and food chains. When in solution it can be efficiently taken up by plants and assimilated by animals because of its chemical similarity to the essential nutrient potassium. The primary deterrent to the transport of ^{137}Cs to humans and other living organisms is its very strong tendency to attach, sometimes irreversibly, to common clay minerals found in most soils and sediments.

The general intent of this Report is to provide a:

- Summary of general knowledge on the properties, geographic distribution, and sources of ^{137}Cs in the environment.
- Site-specific description of releases, environmental levels, transport pathways, and specific issues relative to ^{137}Cs at three major DOE facilities.
- Relatively detailed treatment of the radioecology of ^{137}Cs in terrestrial and aquatic ecosystems, including biogeochemical transport mechanisms and transport modeling concepts.
- Brief summary of the more generic management issues, remediation techniques, and benefit-cost considerations of alternative strategies for lands contaminated with sufficient levels of ^{137}Cs to warrant concerns about public health and environmental quality.

NCRP Report No. 154 Scientific Committee Members:
Chairman: *F. Ward Whicker* (Colorado State University, Fort Collins, Colorado)
Members: *Charles T. Garten, Jr.* (Oak Ridge National Laboratory, Oak Ridge, Tennessee), *Daniel I. Kaplan* (Savannah River National Laboratory, Aiken, South Carolina), *David M. Hamby* (Oregon State University, Corvallis, Oregon), *David J. Rowan* (ENTRIX, Inc., East Lansing, Michigan), *Kathryn A. Higley* (Oregon State University, Corvallis, Oregon), *R. Gene Schreckhise* (Washington State University, Richland, Washington), *Thomas G. Hinton* (Savannah River Ecology Laboratory, Aiken, South Carolina)
Consultants: *Margaret M. MacDonell* (Argonne National Laboratory, Argonne, Illinois), *John E. Pinder, III* (Colorado State University, Fort Collins, Colorado)

NCRP Report No. 154 is available from the NCRP Web site (http://NCRPpublications.org) in both soft- and hard-copy formats. For additional information contact David A. Schauer, ScD, CHP at schauer@NCRPonline.org, 301-657-2652 (x20) or 301-907-8768 (fax).

[1]NCRP gratefully acknowledges the financial support provided by the US Department of Energy and the Defense Threat Reduction Agency.

HPS Standards Corner

Annual ANSI Z136 Laser Safety Meeting

Thomas E. Johnson, CHP
HPS Representative to the ANSI Z136 Committee

The ANSI Z136 Committee met in San Francisco on 18 March 2007. The editorial review process for the primary laser safety standard, Z136.1, Safe Use of Lasers, has been completed and the standard is expected to be available in May or June 2007. The new standard is in a new single-column format. The standard will have an index with a comparison of the Food and Drug Administration, International Electrotechnical Commission (IEC), and American National Standards Institute (ANSI) laser classifications, summarizing the differences and changes. Significant changes were also made to appendix B, examples 15 and 25, and section B4 was re-worked. Section B9 was added to the standard, which should prove to be very useful to users. The transmission of optics was clarified as to its use in hazard evaluation, but not in laser classification.

Future Z136.1 editions will have collinear beam examples, and expect the 1.15 to 2.6 micron maximum permissible exposures (MPEs) to change slightly based on information published in *Health Physics* in 2007, 92(1)15-23. Data regarding skin exposures will also be input into the next standard, and changes should be anticipated. Some important work on the dependence of the MPE on retinal diameter has been completed and alpha min calculations may be simplified in the next revision as well.

The next version of Z136.1 is planned for release in 2012, but all substantial changes will need to be addressed in the next two years. As discussed previously, the Z136 standards are currently in the process of being changed so each is more "vertical" and covers a specific application, rather than "horizontal" to cover a broad range of applications. The process of changing the Z136.1 to a horizontal standard by 2012 was discussed. The process would remove specific information from Z136.1 and shift it to the new standards. There was a lively discussion regarding what should be removed, where information should reside, the impact on existing and upcoming standards, and the timetable. It was decided that the change will be gradual for Z136.1, and the next version will probably have information that is duplicated in other standards, although efforts will be made to minimize duplication with existing standards.

Committees are still investigating multiwavelength exposure limits, intense pulsed light sources, and broadband exposures. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) is working on updating the intense light sources recommendations, and members are coordinating both activities to minimize duplication. The addition of a nonnormative section on these topics is among the options being considered. Medical surveillance and exams continue to be a source of concern for committees who will attempt to come to a consensus on this issue at future meetings. Keeping up with the rapid changes in technology and applications was also a major concern.

Another area of active interest is the terahertz (THz) and infrared interface between Z136.1 and C95. A THz working group was established under C95, but there is little data in this wavelength regime.

Z136.2 is now officially retitled "Safe Use of Optical Telecommunications Systems Utilizing Laser Diodes and LED Sources." The draft is harmonized with IEC 60825 part 2 and 12, but it is more focused on the user rather than equipment. The standard will not cover visual communications and it is limited to wavelengths between 0.6 microns and 1 mm. This standard only covers fixed-point systems, and not mobile systems. Other systems are covered under Z136.6. The draft should be available by May 2007 and the standard should be available in late 2007 or early 2008.

The Safe Use of Lasers in Health Care Facilities, Z136.3-2005, has been renamed to reflect the broad use of lasers in any setting. It is now titled "The Safe Use of Lasers in Health Care" so that the standard can be applicable wherever lasers are used in health care. Previously, there were gaps with application for spas and veterinary clinics. The word "human" was replaced by "patient" and anyone who might be exposed. The first draft revision should be done by the end of 2007. An area of great concern to the committee was reports of injury due to the use of intense light sources. Although these sources are not lasers, and not under the purview of Z136, members of the committee are working with the American

Conference of Governmental Industrial Hygienists, ICNIRP, and IEC 60825-8 and -12 groups to help resolve this problem.

Recommended Practice for Laser Safety Measurements for Hazard Evaluation, Z136.4-2005, is undergoing revisions to match the laser classification system in Z136.1. Changes in measurement and other changes based on the new Z136.1 are currently being incorporated into the draft. More examples are being created for the next version as many people find they are very useful. Examples using the angle of subtense and viewing with optical aids are among the anticipated additions. The next version is planned for release in 2010.

The Safe Use of Lasers in Educational Institutions, Z136.5, draft was voted on in 2006 and has been harmonized with the IEC classifications. It should be reviewed by the Editorial Working Group this May and could be available as soon as the end of 2007.

Safe Use of Lasers Outdoors, Z136.6-2005, is planned to be revised and the next version released in 2010. The committee is coordinating with the Z136.10 committee to ensure that there is minimal duplication of effort.

The American National Standard for Testing and Labeling of Laser Protective Equipment, Z136.7, has been sent to the Editorial Working Group. This is a new standard and should be available in late 2007 or early 2008, immediately following the release of Z136.1.

With the approval of the new vertical standards, the Z136.8, Safe Use of Lasers in Research, committee gave its first report. This document is anticipated to apply to universities and any laboratory performing research. The intent is to have people in a research environment use the Z136.1 and Z136.8 together, so that only that information pertinent to the specific needs of research are covered. This standard is anticipated to be out in 2012.

The next newly approved standard, expected in 2012, is Safe Use of Lasers in the Manufacturing Environment, Z136.9. Members of this standard committee are seeking to compliment Z136.1 and clarify items specific to their environment.

Safe Use of Lasers in Entertainment, Displays and Exhibitions, Z136.10, is being coordinated with IEC 60825-3. The members of this committee plan to have a draft document by September so that a 2012 deadline might be met.

As a point of clarification, the MPE should be used for hazard evaluation and measurements should be made at the expected point of exposure. Measurements made for laser classification are fixed by the standard and may be different than the classification conditions. Please be aware of this as you perform your laser safety evaluation!

OSHA Ionizing Radiation Stakeholder Meeting: Healing Arts

John Jacobus, CHP

The Occupational Safety and Health Administration (OSHA) held the first of four stakeholder meetings on 16 March 2007 in Washington, DC. Each stakeholder meeting is to be directed toward specific worker populations. While this meeting focused on ionizing radiation exposure to workers in the healing arts, additional meetings will focus on radiation exposures in industrial (nonradioisotope) radiography, industrial accelerators, and security operations.

In May 2005, OSHA posted a notice in the *Federal Register* asking for data, information, and comments on the increasing uses of ionizing radiation in the workplace —http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FEDERAL_REGISTER&p_id=18341. Following 51 written submissions from various government agencies, professional organizations, and individuals, OSHA staff performed literature searches and conducted various site visits. These four stakeholder meetings are the next step as OSHA considers the need to rewrite its regulations and, if so, what they should entail.

OSHA's mandate established under the Occupational Safety and Health (OSH) Act of 1970 was to minimize the risk of harm to workers and ensure their health in the workplace. In some cases OSHA responsibilities are shared with other federal agencies such as the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), and the Environmental Protection Agency (EPA).

Under the standards drafted in 1971, OSHA regulates worker exposures from ionizing radiation from all sources not associated with byproduct material as defined by the Atomic Energy Act. This would include exposures received in dental and medical offices, security operations, hospitals, manufacturing and research facilities and forestry and agriculture operations

and at wastewater treatment plants. Thus, even with the NRC's increased responsibilities and regulatory activities under the Energy Policy Act, OSHA will still be responsible for worker exposures associated with x-ray equipment or nonradionuclide accelerator production operations.

At the Healing Arts stakeholder meeting, OSHA officials clarified a number of issues regarding OSHA regulations. They also responded to various questions from the approximately 30 individuals in attendance. A number of key points are listed below.

- Due to emergency technologies, such as intravascular x-ray units in medicine and new security devices, and the proliferation of such devices, OSHA officials believe that the development of new regulations should be considered since the NRC and DOE are only involved with a small aspect of ionizing radiation exposure to workers. Nevertheless, no updating of regulations will be made if current OSHA regulations prove to be adequate.
- OSHA officials indicated that they did not intend to duplicate regulations for workers that may exist under other agencies, such as the NRC. Consequently, OSHA will not move forward with regulation development until the NRC publishes its regulations requirements under the Energy Policy Act for accelerator-produced radioactive material and ^{226}Ra and other discrete, naturally occurring radioactive sources.
- In accordance with the OSH Act of 1970, regulations do not provide for "zero risk" to workers, but will control workplace safety to ensure increased health risks are less than 1/1,000. It was also noted that OSHA does not have a concept akin to the NRC's ALARA philosophy. Consequently, if certain work practices have associated secondary "residual" risks, such as cancer, these risks will have to be considered separately in the regulatory development process.
- In developing its regulations, OSHA does not use a direct cost-versus-benefits analysis. Nevertheless, feasibility and the effects of proposed regulations are considered on the industries affected. Some of the attendees were concerned that regulations to regulate worker exposures would affect the cost and eventually access patients would have to medical care.
- While federal facilities adhere to OSHA regulations, only 25 states have comparative OSHA regulations, and any changes to existing OSHA regulations will have to be considered by these states.
- It should be recognized that while new standards and technological developments in patient care are changing medicine, OSHA regulatory limits may not change for workers.
- While contractor staffing is a common practice in medicine, the safety of contractors is the responsibility of the firm that hires them. Consequently, the firm is responsible for OSHA compliance.
- Certain medical practices, such as interventional radiography, result in high doses to workers and provide significant benefits to patients. In developing regulations, OSHA can only indirectly consider the impact of its regulations on the patient care and the economic impact regulatory changes would have on such practices.
- It is believed that some worker populations in medicine, such as nurses, do not receive adequate safety training. Since OSHA can mandate safety training for some hazards, it may do so for ionizing radiation.
- Several comments questioned future reporting requirements and the elimination of certain aspects of current regulations, such as quarterly exposure limits. OSHA officials expect that such issues may or may not be considered in developing new regulations and can be commented upon when posted for regulatory change in the *Federal Register*.

OSHA officials said that no official transcripts will be made of this meeting. A summary of comments from this meeting and the other stakeholder meetings will be made available on the OSHA Web site in the future.

NCCHPS Increases Its Contribution to Burton J. Moyer Fellowship

Radoslav Radev, CHP
NCCHPS President

The Northern California Chapter of the Health Physics Society (NCCHPS) is proud to announce the decision to increase its annual contribution to the Burton J. Moyer Memorial Fellowship to $4,000, starting with its contribution for the 2008 year. Thus the total amount of the prestigious Burton J. Moyer Memorial Fellowship, including the HPS contribution of $4,000, will become $8,000.

Committee Activities

Membership Committee

Marcia Hartman
HPS Membership Committee

Congratulations to the following 279 new Health Physics Society members who have joined the Society since November 2006:

Associates
Greg Astrauckas
David Baltz
Frank Beeslaar
Richard Berk
James Burkhart
L.B. Burnett
Bob Burns
Nancy Butler
Scott Byers
Tom Carver
Zheng Chang
Rebeccah Collins
Carlos Corredor
Ken Courville
Christopher Crazy Bull
Randy Crowe
Steven Curtis
Derrick Dameron
Carlton Daniel
Elizabeth Daniel
Fred Dolislager
Kay Drey
Thomas Duberville
Walter Earley
John Ellison
David Ferguson
Randy Fleischacker
John Gabriel
Susan Gawarecki
John Gibson
Tim Gillespie
Keane Gonzalez
Daniele Goos
Kamal Hadad
Mark Hammon
Glenn Harris
Chris Helm
Richard Helm
William Hermes
Rich Holm
Lara Hughes
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Jim Terry
Jack Topper
Matthew Uelen
Adis Umpierre
Christopher Vanderpool
Stuart Walker
Marc Wendling
Allison Wilding

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Eric Benton
David Carlson
James Case
Kevin T. Claver
Lloyd Dolleman
Thomas P. Fuller
Jeremy Gwin
John Hackett
Derek W. Jokisch
Jim Lewis
David E. Mickelsen
Jodi Powers
Laura Pring
John Stiver
Robert W. Taylor

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David Wagoner
Timothy Watson
Christopher Welch
Neil Whiteside

The Health Physics Society (HPS) welcomes the 279 new members who have been accepted since November 2006. Of these new members, 158 are students who are taking advantage of the new HPS policy to give student applicants their first year of HPS membership free. We hope that they continue as members through their careers. The Membership Committee congratulates the HPS Board for approving this new policy. If the person who first had the idea lets me know who he/she is, I will let you know in a future column. Then we can recognize our member for a great new way to encourage Society participation.

Society Support Committee

Steven H. King, CHP

The new Health Physics Society Support Committee was officially born at last year's annual meeting in Rhode Island. The committee was created to support the Society in maintaining and improving support to chapters, establishing member concerns, improving internal communication, improving support to sections and increasing member involvement in the Society. The committee has been working on several projects designed to meet some of our objectives. A series of short surveys will be sent to you electronically over the next few months soliciting your input on how the Society can better serve your needs. Please look for this survey and respond as you think best. We need to hear from all of you; when you receive the survey, please take the time to complete the information requested promptly. If anyone has any suggestions we would be very happy to hear from you. Please contact any of the following members: Judson Kenoyer, Steve King (Chair), Cheryl Olson, John Salsman, Shawn Seeley, Jason Timm, and Jim Willison.

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AAHP Special Session

Health Physics Education:
Status of Academic Programs, Student Recruitment, Funding, and Accreditation

Health Physics Society 2007 Annual Meeting
Portland, Oregon
Tuesday, 10 July 2007

The Academy's Special Session at the 2007 Health Physics Society Annual Meeting in Portland will be on the topic of health physics education. The session will be cochaired by Wesley Bolch (Professor and Health Physics Program Coordinator, University of Florida), Derek Jokisch (Associate Professor of Physics and Health Physics, Francis Marion University) and Jim Bogard (AAHP Past President).

Speakers from successful health physics academic programs will summarize their programs in the morning session, led by Derek Jokisch. Each is asked to provide a brief history of the program and to emphasize what they do to recruit and retain students on a health physics track in the face of competition from other fields like physics, medical physics, nuclear engineering, and biology.

The afternoon session, led by Wes Bolch, is devoted to an exploration of funding and accreditation for academic health physics programs.

Both the morning and afternoon sessions will conclude with a half-hour roundtable discussion, after which audience members will be encouraged to share their experiences and ask questions of the speakers.

Preliminary Program

Morning Session (8:30–Noon)

Status of HP Academic Programs and Student Recruitment

Summary of HP Manpower and Future Demand, *Kevin Nelson*

A Review of Current HP Programs Across the Country, *W.E. Bolch*

Program Descriptions

Associate's Program at the University of Missouri, *William Miller*

Bachelor's Programs
Bloomsburg University, *David Simpson*
Francis Marion University, *David Peterson*

Graduate Programs
Texas A&M University, *John Poston*
Oregon State University, *Kathryn Higley*
University of Tennessee-Knoxville, *Larry Miller*
University of Massachusetts-Lowell, *Clayton French*

Panel Discussion and Question/Answer: "Competition from other Fields/How Does HP Compete?"

—Break for AAHP Awards Luncheon—

Afternoon Session (2:30–5:15)

Funding and Accreditation of Academic Programs

Summary of ABET Accreditation, *Rich Brey*

Funding of Academic Programs

DOE University Programs Update, *John Gutteridge*
NIOSH Training Programs, *Tom Borak*
HPS Congressional and Agency Efforts, *Keith Dinger*
Scholarships and Fellowships, *Craig Williamson*

What HPS Is Doing to Help, *Derek Jokisch*

Panel Discussion and Question/Answer: "Current and Future Funding of Academic Programs"

—Adjourn to AAHP Business Meeting—

ABHP Examination No. 1 – June 1960

Four 10-point questions from Part II of the first ABHP exam are listed below. Candidates were required to answer 15 out of 20 10-point questions, plus a 50-point essay in an exam time limit of three hours.

Part II – Answer 3 questions (10 points each)

5. Give the equations for the decay of a single radioisotope and of fallout from a nuclear detonation (from a few hours to a few months after the event) respectively. Give the meaning of each symbol. Describe the basic concepts behind equations, how the two equations differ and the meanings of "half life" in the two cases.

6. a) Explain the difference between broad and narrow beam condition as related to X or gamma ray shielding problems.

   b) Describe a method for shielding a fast neutron source that emits negligible X or gamma radiation.

7. Define the following:
   a) roentgen b) rad c) rem d) curie e) LET

8. Discuss the relative importance of radiation effects on somatic cells and on germ cells in establishing maximum permissible exposure for:

   a) Occupational exposure

   b) Exposure to the general population

2008 Midyear Topical Meeting

"Radiation-Generating Devices"

Meeting Date: 26-30 January 2008

Call for Abstracts

The Accelerator Section, in conjunction with the Northern California Chapter of the Health Physics Society (HPS), is pleased to submit a call for abstracts for the 2008 Midyear Meeting on "Radiation-Generating Devices." More than a decade will have passed since the last midyear on this topic! So, it is with great pleasure and anticipation that we announce this upcoming meeting to whet your appetite and to help you to prepare for this unique event. So much has changed and expanded in this field that it virtually covers all aspects of health physics. We urge you not to miss this exclusive opportunity. Plan now to attend. We are waiting to welcome you to Oakland. For more information on the 2008 Midyear Meeting please see the official Web site at http://hpschapters.org/2008midyear/. You may also obtain a poster advertising the meeting by contacting the HPS Secretariat.

Abstracts Due: 31 July 2007

http://www.hpschapters.org/2008midyear/Call_for_Abstracts.pdf

The display ads, short courses, and placement ads are availbale in the hard-copy version of *Health Physics News*.

***Health Physics News* Contributions and Deadline**
Almost everything the Managing Editor receives by 20 May will be printed in the July issue.

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Article II, Section 1, of the Bylaws of the Health Physics Society declares: "The Society is a professional organization dedicated to the development, dissemination, and application of both the scientific knowledge of, and the practical means for, radiation safety. The objective of the Society is the protection of people and the environment from unnecessary exposure to radiation. The Society is thus concerned with understanding, evaluating, and controlling the risks from radiation exposure relative to the benefits derived." *Health Physics News* is intended as a medium for the exchange of information between members. *Health Physics News* is published monthly and is distributed to the members of the Society as a benefit of membership. Subscriptions for nonmembers are available. Libraries, institutions, commercial firms, government agencies, and any person not eligible for membership may obtain a subscription. A small inventory of recent back issues is maintained by the Society at the Office of the Executive Secretary to supply copies to new members not yet on the mailing list. Inquiries about back copies and about subscriptions should be directed to the HPS Secretariat.

***** CHANGE OF ADDRESS, PHONE, FAX, OR EMAIL INFORMATION *****

If you have a change of address, phone or fax number, or email address you may now make those changes via the Health Physics Society (HPS) Web site (www.hps.org) in the Members Only section. The changes will be made to the Web site database and will also automatically be sent to the HPS Secretariat so that changes will be made on the Society database.

If you do not use the Internet make your changes through the HPS Secretariat.
Please make any changes or corrections BESIDE YOUR MAILING LABEL (on the reverse side of this notice).
If you have any change in your phone number, fax number, or email address, please note it near the label.

Odds and Ends from the Historical Archives

Paul Frame

RADIAC IM-108/PD (1950s)

The IM-108/PD was a high-range survey meter employed by the US military. When I first saw one, I assumed that the removable component (photo to right) was an ion chamber and that it was connected to the meter via the long cable to permit remote readings in a high-radiation environment. Wrong. It turns out that it is the battery compartment! Why a removable battery compartment?

Under very low-temperature conditions, the batteries would fail. So, to keep the batteries warm and allow the instrument to operate, the battery compartment would be removed and placed inside the user's clothing next to the body. Is that clever or what?

Upcoming Events

52nd Annual Meeting of the HPS
http://hps.org/meetings/meeting7.html
8-12 July 2007
DoubleTree/Convention Center
Portland, Oregon

2007 Professional Development School
http://hps.org/meetings/meeting16.html
13-16 July 2007
Corvallis, Oregon

HPS Midyear Meeting
http://hpschapters.org/2008midyear/
"Radiation-Generating Devices"
27-30 January 2008
Oakland, California

2008 Professional Development School
http://hps.org/meetings/meeting19.html
31 January-2 February 2008
Oakland, California

IRPA 12
http://www.irpa12.org.ar/
19-24 October 2008
Buenos Aires, Argentina

HPS Web Site: http://www.hps.org

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