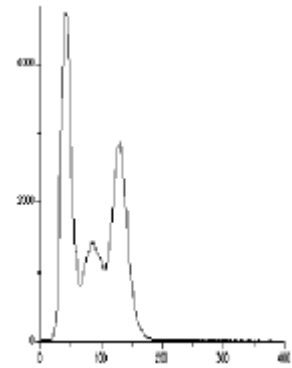




**MIDWEST
CHAPTER**

THE SPECTRUM

NEWSLETTER OF THE HEALTH PHYSICS
SOCIETY'S
MIDWEST CHAPTER
October 5, 2009
www.hpschapters.org/midwest



Fall Meeting Wednesday, October 28, 2009

Chapter Officers

President: Cindy Boggs
President-Elect: Sheri Minnick
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Affiliates: Wayne London
Legislative: Darrel Wiedeman
Nominations: John Schrage
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Publications: John Schrage
PR & Info: Karl Fischer

Affiliates

Advanced Measurement
Technology/ORTEC
Ameriphysics, LLC
Bionomics, Inc.
Chase Environmental Group, Inc.
DEQ Technical Sales
Landauer, Inc.
Mirion Technologies - Dosimetry
Services
Philotechnics, Ltd.

MEETING PROGRAM

U. S. Nuclear Regulatory Commission Response to Medical Events at Veterans Affairs Medical Facilities

Mr. Steven Reynolds
Division Director, Division of Nuclear Materials Safety
U. S. Nuclear Regulatory Commission, Region III

In May of 2008, the U. S. Nuclear Regulatory Commission (NRC) was notified of a prostate cancer procedure in which the patient received less than the prescribed dose. The VA hospital in Philadelphia suspended its prostate treatment program in June 2008. Four additional VA medical centers in Cincinnati, Ohio; Jackson, Miss.; Los Angeles, Calif.; and Washington, D.C. suspended their programs as problems were identified.

Based on the increasing numbers of identified problems at the VA in Philadelphia, NRC management launched an in-depth inspection in July 2008. On March 30, 2009, the NRC issued a report on its inspections that focused on the medical errors at the VA hospital in Philadelphia and identified six apparent violations. The NRC plans to hold an enforcement conference with VA Philadelphia after inspection activities are finalized.

Mr. Steven Reynolds, the NRC Region III Division Director of the Division of Nuclear Materials Safety will discuss this issue with the Chapter.

Chapter News

The MWHPS website has recently relocated to www.hpschapters.org/midwest. The new site includes meeting announcements, current and past issues of the Spectrum, information about our Affiliate members, a membership application, and the Chapter Bylaws. Frequent updates and new additions are anticipated, so be sure to check back often!

In addition to the evening dinner meetings, the chapter's premier event will be the third annual spring Technical Symposium, tentatively to be held at the Argonne National Laboratory Advanced Photon Source. The first and second annual symposiums were highly successful with over 70 attendees at each and a cornucopia of speakers and topics. We fully expect the 2010 symposium to build on the success of the first two. In order to ensure this, we invite and would welcome participation from the chapter members, either as speakers or as committee members (i.e., to assist in the planning). If you are interested in participating, or know of any potential speakers, please send an email to, or call Cindy Boggs at cboggs@anl.gov (630-252-3071) or John Schrage john.schrage@exeloncorp.com (630-657-2821).

LEGISLATIVE AND REGULATORY NEWS

U. S. Nuclear Regulatory Commission Regulatory Items of Interest

Recently Issued NRC Guidance – Estimating Effective Dose Equivalent from External Exposure

On July 13, 2009, the NRC issued regulatory issue summary (RIS) 2009-09, "Use of Multiple Dosimetry and Compartment Factors in Determining Effective Dose Equivalent from External Radiation Exposures to inform licensees of an acceptable method for determining effective dose equivalent (EDE) from external sources of radiation.

In September 2009, the NRC issued Draft Regulatory Guide DG-8039, "Methods for Estimating Effective Dose Equivalent from External Exposure." This regulatory guide expands upon the guidance in RIS 2009-09 to describe dosimetry methods that the NRC considers acceptable for determining the effective dose equivalent EDE for external radiation exposures (EDEX). These methods provide a conservative estimate of the EDEX and may be used to calculate the total effective dose equivalent (TEDE) in demonstrating compliance with TEDE-based NRC regulatory requirements.

The EDEX is the sum of the products of the tissue or organ weighting factors given in 10 CFR 20 and the dose to the corresponding body tissues and organs resulting from the exposure to radiation sources external to the body. In 10 CFR 20.1201(a), the NRC provides an annual dose limit of 0.05 Sievert (5 rem) TEDE, and 10 CFR 20.1201(c) requires that when an external personal monitoring device is used to measure external exposure, the deep-dose equivalent (DDE) must be used as an estimate of the EDEX unless the EDEX is determined more directly by an NRC-approved dosimetry method. In using the DDE to estimate the EDEX, the assigned DDE must be for the part of the body receiving the highest radiation exposure.

Using the DDE measured at the highest exposed part of the whole body as an estimate of the EDEX can be overly conservative in extremely nonuniform irradiations (e.g., when only a small portion of the whole body is irradiated). Therefore, several methods acceptable to the NRC staff have been developed to determine the EDEX from dose measurements on the surface of the whole body. Each of these methods generally involves the measurement of the DDE at two or more locations on the whole body. The EDEX is then determined by applying an algorithm that combines these measurements to provide a less conservative estimate of the EDEX than that provided by the single dosimeter.

(continued)

**U. S. Nuclear Regulatory Commission
Regulatory Items of Interest
(continued)**

NRC Annual Report on Abnormal Occurrences for FY 2008

On June 12, 2009, the NRC released its annual report on abnormal occurrences for fiscal year 2008, citing 10 incidents that occurred in licensed medical facilities during that period. An accident or event is considered an abnormal occurrence if it involves a major reduction in the degree of protection of public health and safety. Abnormal occurrences can include, but are not necessarily limited to, moderate exposure to or release of radioactive material licensed by the NRC; major degradation of safety-related equipment; or major deficiencies in design, construction, use of or management controls for facilities or radioactive material licensed by the NRC.

For FY 2008, there were no abnormal occurrences at NRC-licensed nuclear power reactors. Five of the 10 abnormal occurrences in medical facilities involved NRC licensees, while the rest involved Agreement State licensees. (Thirty-seven states have entered into agreements with the NRC to regulate radioactive materials.) Two of the events involved exposure of an embryo or fetus. The rest were medical events, such as misadministration of radioactive material during diagnostic or therapeutic procedures. The report details investigations of each incident by the NRC, Agreement States and licensees, as well as measures taken to ensure such incidents do not recur. The report on abnormal occurrences for fiscal year 2008 is published as NUREG-0090, vol. 31. The report was transmitted to Congress on May 16 and is available on the NRC Web site at <http://www.nrc.gov/reading-rm/doc-collections/congress-docs/correspondence/2009/>.



**MIDWEST
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**Fall 2009 Meeting
Wednesday, October 28, 2009**

U. S. Nuclear Regulatory Commission Response to Medical Events at
Veterans Affairs Medical Facilities

Mr. Steven Reynolds
Division Director, Division of Nuclear Materials Safety
U. S. Nuclear Regulatory Commission, Region III

<p>Date: Wednesday, October 28, 2009</p> <p>Time: 6:00 PM Social Hour 7:00 PM Dinner 7:45 PM Featured Speaker</p> <p>Location: Casey's Restaurant 415 East North Avenue Lombard, IL 630/932-4777 http://caseysrestaurant.com/ for directions</p> <p>Cost: \$23 per person for members & spouse; \$26 per person for non-members.</p>	<p>Menu Choices are:</p> <p>London Broil with noodles, Fettuccine Alfredo with chicken, or Baked Boston Scrod with rice</p> <p>Soup, salad, and dessert are included with all meals</p>
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Reservations: Phone or e-mail your reservation with your meal choice to Cindy Boggs at (630) 252-3701, or cboggs@anl.gov by 4 pm Monday October 26.