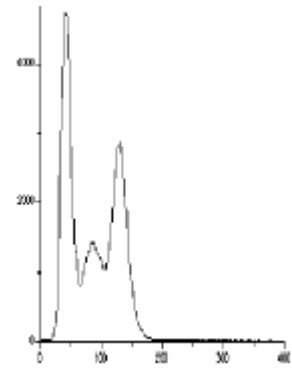




MIDWEST
CHAPTER

THE SPECTRUM

NEWSLETTER OF THE HEALTH PHYSICS
SOCIETY'S
MIDWEST CHAPTER
February 2, 2007
www.midwesthps.org



Winter Meeting, February 27, 2007

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Legislative: Darrel Wiedeman
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Publications: Bruce Sanza
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Dave Derenzo

Affiliate Members

Global Dosimetry Solutions
Landauer, Inc.
Protean Instrument Corp.
Scientific Instrument Sales
ORTEC-AMETEK
Canberra
Image Technology, Inc.

Dual Topic Meeting

The Braidwood Tritium Problem Allan Haeger, Exelon Nuclear

In December 2005, Exelon Nuclear reported higher than normal concentrations of tritium in groundwater on the site of the Braidwood nuclear station. Investigation attributed the concentrations to leakage of about six million gallons from the blowdown line that carries liquid effluent to the Kankakee River. Studies involving more than 1,800 water samples found a peak tritium concentration of 226,000 pCi/liter, about 11 times the EPA drinking water limit of 20,000 pCi/liter. This was in onsite groundwater.

Analysis of water from 14 private drinking water wells in the area showed no tritium above normal background levels in 13 wells and only about 1,500 pCi/liter in the remaining well. The NRC estimated a maximum dose to a member of the public of about 0.07 mrem/year. Despite the low dose consequence, the reports received much media attention, and lawsuits against the station have been filed.

Allan Haeger's presentation will provide an overview of Exelon's activities related to the identification of tritium in groundwater, focusing on the company's fleetwide assessment and the response actions at Braidwood Station. The presentation will discuss these topics in the context of the company's issues management process and will also include a discussion of the methodology used to assess the offsite dose related to releases of tritium into groundwater.

Mr. Haeger has worked for Exelon Corporation for over 25 years and is currently a regulatory licensing lead in the Exelon Nuclear Regulatory and Legal Affairs organization. Mr. Haeger previously was a licensed Senior Reactor Operator and has managed the Chemistry, Radiation Protection, and Regulatory Assurance departments at Braidwood Station.

The Po-210 Poisoning Michael Van Der Karr, Argonne National Laboratory

The death of former Russian spy Alexander Litvinenko in November was attributed to poisoning by minute quantities of polonium-210. Michael Van Der Karr will present an internal dosimetry analysis of the poisoning, discussing the organs that may have been affected, possible quantities of polonium, and how the analysis of this type of event differs from the analysis of a normal low level operational exposure.

Mr. Van Der Karr is a Certified Health Physicist and is Internal Dosimetry Program Manager at Argonne National Laboratory. His experience in radiation protection spans more than 15 years and has included work at Brookhaven National Laboratory and Stanford Linear Accelerator as well as Argonne.

LEGISLATIVE AND REGULATORY NEWS

Submitted by Darrel Wiedeman

NRC REGULATORY ISSUE SUMMARY 2006-25 REQUIREMENTS FOR THE DISTRIBUTION AND POSSESSION OF TRITIUM EXIT SIGNS AND THE REQUIREMENTS IN 10 CFR 31.5 AND 32.51a

Issued December 07, 2006

ADDRESSEES

All U.S. Nuclear Regulatory Commission (NRC) licensees distributing tritium exit signs and those possessing a tritium exit sign under a general license.

INTENT

NRC is issuing this regulatory issue summary (RIS) to reiterate the requirements in 10 CFR 32.51a that distributors of tritium exit signs must follow when transferring them to general licensees. In addition, this RIS is intended to reiterate the requirements in 10 CFR 31.5 for general licensees regarding transfer and disposal of the tritium exit signs. It is NRC's intent that this will minimize the chances that tritium exit signs will be disposed of incorrectly and be disposed of in the nation's landfills or be sold on eBay or in other venues such as flea markets. This RIS does not transmit any new requirements or new staff positions.

BACKGROUND

The Commonwealth of Pennsylvania and the State of New Jersey have expressed their concerns to NRC about the possible improper disposal of tritium exit signs. Their concerns are based on a report, issued by the Pennsylvania Department of Environmental Protection, regarding increased levels of tritium found in leachate in Pennsylvania landfills. The report concludes that the increased levels of tritium are attributable to the improper disposal of tritium exit signs. For this reason, the reporting requirements for the distribution and possession of generally licensed tritium exit signs in 10 CFR 31.5 and 32.51a are being reiterated.

SUMMARY OF ISSUE

For the purposes of this RIS, the following terms are defined:

"Specific Licensee" is an individual or entity that is authorized to manufacture and/or distribute tritium exit signs. It also refers to an individual or entity that possesses a license issued by NRC or an Agreement State, that authorizes them to possess byproduct materials; and

"General Licensee" is used to describe an individual or entity that possesses a generally licensed device, such as a tritium exit sign. Although the general licensee does not need specific approval from NRC, the general licensee is responsible for understanding and following the applicable NRC regulations (i.e., 10 CFR Part 31). General licensees are also subject to NRC inspection and enforcement activities, including issuance of civil penalties.

NRC regulations in 10 CFR 32.51a(a) require that each specific licensee who transfers a generally licensed device provide the following information to the general licensee receiving the device: (1) a copy of the applicable portions of the general license contained in 10 CFR 31.5; (2) copies of 10 CFR 31.2, 30.51, 20.2201, and 20.2202; (3) a list of services that may only be performed by the specific licensee; (4) information on acceptable disposal options for the device and the estimated cost for disposal; and (5) an indication that NRC's policy is to issue high civil enforcement penalties for improper disposal of devices. Furthermore, 10 CFR 32.51a(a) requires the specific licensee to provide this information before the device is transferred.

The relevant portions of the general license contained in 10 CFR 31.5(c)(8)(i) include requirements that general licensees must follow regarding the transfer or disposal of generally licensed devices, including tritium exit signs, that contain byproduct material.

In order for a general licensee to dispose of a device properly (i.e., when the device is no longer useful), the general licensee must transfer the generally licensed device to a specific licensee. Examples of specific licensees that would typically receive tritium exit signs when they are no longer useful include the manufacturer, distributor, licensed radioactive waste brokers, and licensed low level waste disposal facilities. These licensees often charge fees to receive such material, so possessors of tritium exit signs are advised to contact specific licensees and explore disposal options. Transfer to a specific licensee is the only authorized disposal method for generally licensed tritium exit signs. The requirements for transferring a generally licensed device to a specific licensee are found in 10 CFR 31.5(c)(8)(ii) and state that a general licensee:

Shall, within 30 days after the transfer of a device to a specific licensee or export, furnish a report to:
Director, Office of Nuclear Material Safety and Safeguards, ATTN: GLTS, U.S. Nuclear Regulatory Commission,
Washington, DC 20555-0001

Using an appropriate method listed in 10 CFR 30.6(a) of this chapter. The report must contain -

- (A) The identification of the device by manufacturer's (or initial transferor's) name, model number, and serial number;
- (B) The name, address, and license number of the person receiving the device (license number not applicable if exported);
and
- (C) The date of the transfer.

In addition, general licensees are also required, by 10 CFR 31.5(c)(12), to appoint an individual responsible for having knowledge of the appropriate regulations and requirements and the authority for taking required actions to comply with appropriate regulations and requirements.

A Tribute to Mary Jane Oestmann

Submitted by Kit Weaver, Chapter Historian



Mary Jane Oestmann, one of our long-time members, passed away last year at the age of 82. As a woman, she was truly someone “ahead of her time” in a field previously dominated by men.

In 1946 Mary Jane received her bachelor’s degree from Denison University. She received her master’s degree and doctorate in chemistry from the University of Wisconsin at Madison in 1948 and 1954, respectively. After graduation, she conducted research involving medical applications of radioisotopes at nuclear institutes in Norway and Sweden.

Upon returning to the United States, Mary Jane became a visiting professor at the University of Iowa and later worked as a senior scientist at Battelle Memorial Institute. In 1961, she became an associate chemist at Argonne National Laboratory where she worked for the Liquid Metal Fast Breeder Reactor program. In 1971, Mary Jane moved to Washington D.C., with the NRC’s Office of Nuclear Reactor Regulation and became the first woman environmental project manager for the licensing of nuclear power plants.

During the timeframe that many of us in the Midwest Chapter knew her best, Mary Jane was a radiation specialist with the Region III office of the Nuclear Regulatory Commission from which she retired in 1987.

During the Chapter years 1977-78 and 1978-79, Mary Jane was Secretary and then Treasurer of the Midwest Chapter HPS.

Among Mary Jane’s accomplishments was her receipt of the NRC’s Distinguished Woman Award in 1975. Mary Jane was also a Fellow of the American Nuclear Society, which is a class of membership that the ANS reserves for senior members who have “compiled a professional record of experience marked by significant contribution to the advancement of one or more of the disciplines served by [the ANS].”

The ANS annually awards a Women’s Achievement Award in Mary Jane’s name. The Oestmann Award was established in 1990, and was endowed by Mary Jane, to recognize outstanding personal dedication and technical achievement by women in the fields of nuclear science, engineering, research, and education.

From a personal perspective, I was impressed with Mary Jane’s loyalty to the Chapter during her years of retirement. Although living in Wisconsin, she always attempted to arrange her schedule so that she could attend the Chapter’s annual meeting. We will miss her.

From the President’s Desk

For all of you who recently joined or renewed your membership in the Midwest Chapter, Thanks a lot. For those who are still contemplating membership or waiting for the right moment, there’s no time like the present to become a member of the Chapter. Remember, there is no requirement that you be eligible for National HPS membership.

We are excited about the program for the upcoming meeting and hope to have a full house at the Greek Islands. Both topics are very timely and you may have already gotten questions from friends and neighbors about one or both of the topics.

You may ask why we have our Chapter meetings at the same locations. The answer is that we try to hold the meetings in a central location and Lombard/Downers Grove seems to be no more than an hour’s drive for most members. We are always looking for new locations, but are constantly trying to keep the cost low for those on fixed incomes.

Bruce J. Sanza, CHP

Winter Meeting

Presentations:

Allan Haeger, Exelon Nuclear, on the Braidwood Tritium Problem;
Michael Van Der Karr, Argonne National Laboratory, on the Po-210 Poisoning

Date: Tuesday, February 27, 2007

Time: 6:00 PM Social Hour
7:00 PM Dinner
8:00 PM Featured Speaker(s)

Location: Greek Islands Restaurant
300 East 22nd Street
Lombard, IL 60148
630-932-4545

Cost: \$22 per person (member and spouse)
\$25 per person (others)

Menu

Complete dinner (soup, salad and dessert) with following choice of entrée:

Chicken Riganati

(quarter piece of chicken baked Greek style with olive oil, herbs and spices)

Keftedes

(Beef and lamb meatballs stewed in tomato sauce)

Vegetarian Mousaka

(Baked eggplant, zucchini and potato casserole topped with béchamel sauce)

Each entrée will be served with rice and potato.

Please specify your choice of entrée when you make your reservation.

Reservations: Phone or e-mail your reservation and entrée choice to Gerald Davidson, our Program Chair, at 630-252-8894 or gdaavidson@anl.gov by 4 pm MONDAY, February 26.

Midwest Chapter Health Physics Society
P.O. Box 513
Westmont, Illinois 60559