



RADIATION REVIEW



UW - Madison Safety Department

Radiation Safety Program

30 N. Murray St.

262-8769

September 1998

<http://wiscinfo.doit.wisc.edu/safety>

Mandatory Annual Training??

“Not if we can help it,” was our thought when this question was raised recently by an NRC inspector. It seems the NRC desires / requires each radiation worker receive radiation safety refresher training annually. Each year the RSO of the Madison VA schedules such training with each of his lab groups. We pointed out that such a program was viable for small licenses but that the UW has almost 400 lab groups and 3500 radiation workers. Providing in-lab, annual refresher training to such large numbers was not practical, the UW does have a vehicle for such training, this Radiation Review Newsletter. What must be proved is that this newsletter is used by labs as a training vehicle.

To that end, each lab should establish a procedure for newsletter review to insure all workers have seen the newsletter. Posting it on the bulletin board with a comment during your lab meetings to read the newsletter, is one method. Every edition of the newsletter is posted in Acrobat format on our web page:
<http://wiscinfo.doit.wisc.edu/safety>
I shall send the newsletter to each PI on my eMail listing in both Microsoft Word

and Adobe Acrobat formats so labs that communicate by email can forward the documents to their group. Your annual audit will include a question, “How are you using the newsletter for training?” Remember, the Safety Department is not the one who decides whether refresher training will be mandatory; rather it is each lab’s ability to know the information presented and use the information to the satisfaction of NRC inspectors.

The newsletter is published about 4 - 5 times each year and has articles pertaining to the radiation safety program at the UW. Besides discussing the basics like radioactive waste, monthly surveys, inventories, and security, articles have addressed such applicable issues as (P-32) Cherenkov counting, S-35 volatility, beta particle skin doses, etc.

Please take the time to review each issue and insure your lab group does likewise. If you need additional copies the Safety Department can send them to you. If you want to add more lab individuals (or the lab itself) to our mailing list e-mail ralph.north@ccmail.adp.wisc.edu or call 2-1254. You can pick up newsletters at our Annex in Rm 19, Biochemistry.

Security Violation

Recently a lab lost approximately 4.5 mCi of ^{14}C . As you know, this is a violation of NRC Rules and Regulations. An NRC inspector came to investigate the loss. Conclusion, the vial with the ^{14}C was either misplaced or taken. Because the lost quantity exceeded 1 mCi but was less than 100 mCi, this Category IV type violation is not finable in itself, however, it does place the UW at an escalated risk to incur a fine should a similar violation occur. When the NRC comes back in early October, they will certainly put renewed effort into assessing the security program at the UW. Remember the program consists of:

1. Rooms posted with Caution - Radioactive Materials should be secured if unoccupied
2. Unsecured and unoccupied posted labs with (GM) detectable quantities of radioactivity are a violation, but will not likely result in a Fine for the UW.
3. Unsecured and unoccupied posted labs with aggregate quantities of radioactivity in excess of the Violation quantity in the Table are citable violations.
4. Unsecured and unoccupied posted labs with aggregate quantities of radioactivity in excess of the Fine quantity in the Table may be finable violations.

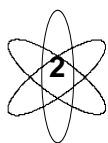
Security Level Table

Isotope	Violation	Fine
H-3, F-18, Cr-51	10 mCi	1000 mCi
C-14, Na-24, P-33, S-35, Ca-45, Hg-203	1 mCi	100 mCi
Na-22, P-32, Sc-46	0.1 mCi	10 mCi
I-125	0.01 mCi	1 mCi

The other interesting item to come out of the inspection was that a group using small quantities of ^{32}P (0.25 mCi -- 250 μCi) did not use a meter to check for contamination after use. They felt that the likelihood of contamination was very slim it was therefore not worth performing a survey. While that belief may be true, a meter survey is the only way one can verify that truth. Thus, when using isotopes with activities exceeding the values in the "Violation" column of the table, you should have a meter turned-on **during** your work and you should perform a meter survey **after** your work checking your work area, the floor adjacent to your work area, and your hands and feet.

Lab Clean Outs

If you are leaving campus or stopping work with radioactive material, Radiation Safety would be happy to send waste management specialists to assist you in packaging and disposing of your radioactive material and wastes. Simply call Jeff Orwin at 2-3278 to schedule it.



REVIEW

New TLD Vendor

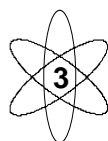
Except for the year 1991, for the past 20 years Landauer Incorporated has been providing the UW with TLD radiation badges. On 1 October we shall be changing vendors and badges. Our new contract, for \$47,500 per year, is with Eberline Instruments. During the change period (beginning about 20 September), insure you collect all of Landauer's badges. While there is a 60 day grace period. TLDs not turned in will be billed \$6.50 each, the fee Landauer charges for lost badges. It is a fact that the UW is overbadged. Many workers are under the mistaken belief that they need one to work with radioactive materials. TLDs are required for workers who may handle more than 1 mCi of an external hazard (e.g., high energy beta [^{32}P , ^{33}P , ^{45}Ca , ^{86}Rb] or gamma [^{46}Sc , ^{51}Cr , $^{99\text{m}}\text{Tc}$, ^{125}I]. Some workers who only use ^{35}S / ^{14}C desire badges even though the TLD can not measure that radiation. The belief has led to an over subscription. In 1997 a total of 3237

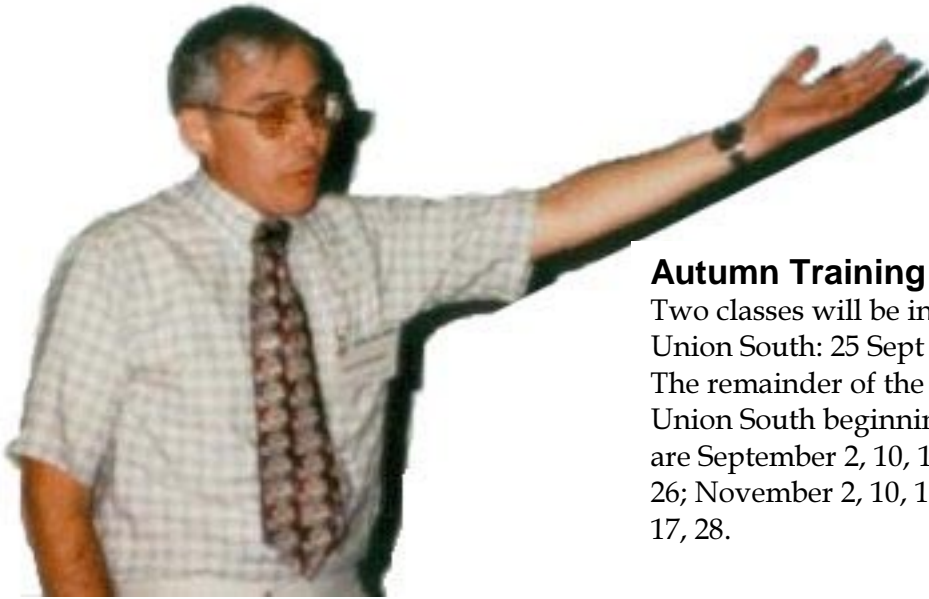
individuals were monitored, but the average dose was

only 0.0169 rem (16.9 mrem) per worker



per year. Our desire is to provide the most cost effective dosimetry service possible. Our requirement for vendors is that they meet the strict NVLAP (National Voluntary Laboratory Accreditation Program) criteria and be so certified; that they provide data on computer disk and allow the Safety Department modem/internet access to make changes; and that they provide monthly and quarterly service. Bids for the contract varied from \$47,500 to \$84,000. Obviously the TLDs will be different. One major difference is there are only 2 ring sizes: medium and extra large. The badge holders are a bit smaller, but each label has all the desired information (e.g., Name, wearing period, badge number, and worker number). Each worker has a unique number on the system so if they stop the service and begin again, all the information is on the computer and they continue using the same worker number.





Autumn Training Schedule

Two classes will be in the morning (8 AM) at Union South: 25 Sept and 6 Oct

The remainder of the classes are held at Union South beginning at 12:30. The dates are September 2, 10, 18, 24; October 8, 14, 20, 26; November 2, 10, 18, 30; and December 9, 17, 28.

Need Lead Bricks?

Radiation Safety has some surplus lead bricks . If you need some, we'll deliver them to your lab free. Call Ralph at 2-1524 to arrange delivery or email ralph.north@ccmail.adp.wisc.edu



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