TACOM-Rock Island Safety Office

RADIATION SAFETY INFORMATION BULLETIN

Issue 03-2 June 2003

Special points of interest:

- 2003 Workshop July 28
- Why perform wipes
- Latest Rad Safety Memo from USARNG
- Our New RSO on license compliance
- MC-1 Transportation Issues
- Hazards of War Souvenirs

INSIDE THIS ISSUE:

Making It Happen!

Accountability + Compliance = Success

"Making it happen" is the theme for this years Radiation Safety Officer (RSO) Workshop.

The TACOM-RI Safety Office is hosting the RSO Workshop again this year. The annual workshop has proven to be a great success in bringing together the Army Radiation Safety community over the past several years and its continued success is directly proportional to your participation in this years event!

The workshop will be held at the Four Points Sheraton, Rock Island, IL July 29th through 31st, 2003

The Army Radiation Safety program continues to evolve. Still, it is not always clear how the program works for you. This year we intend to focus the workshop on accountability and compliance to better support the RSO and our customer, the soldiers in the field. Our 4th annual workshop will provide a great forum for discussions on how to make the Army program work for you.

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A Little Work Now Or a Lot of Work Later

TACOM's tritium fire control license (12-00722-06) has consistently required users and maintainers to do wipe test surveys of storage and maintenance areas on a quarterly basis.

Do you know why you're doing these? Let me list three essential purposes for these surveys!

The first purpose is to document whether or not tritium contamination is building up in storage and maintenance areas. We are concerned about this because tritium, which is an isotope of hydrogen, naturally leaks at a slow rate from any con-

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A LITTLE WORK NOW CONT.

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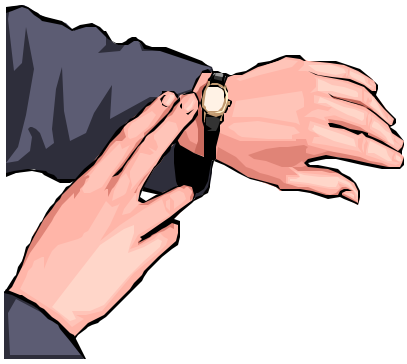


tainer in which it is enclosed. In an enclosed space, especially one in which there are oils and lubricants, off gassing tritium can oxidize to form water vapor which then settles out on surfaces as contamination. Quarterly surveys will tell us whether there is sufficient ventilation in the storage or maintenance area to prevent contamination build up. Of special concern are arms rooms where mortars are stored because arms rooms notoriously have very little ventilation .

The tendency of tritium, even in the form of tritium oxide, is that it eventually escapes whatever container it is in.

The second purpose for quarterly surveys is to find out if fire control devices with damaged sources have found their way into storage areas. And this does happen from time to time.

When a tritium source breaks, the majority of the hydrogen dissipates harmlessly into the air as a gas. However, there is a residue of up to 1% in the form of tritium oxide, which can contaminate the surfaces of the device and the surrounding area. Double bagging the device will only temporarily prevent transfer of the tritium oxide contamination to other surfaces. If damaged tritium sources are merely placed on a shelf in a storage area, they will eventually contaminate other surfaces even if they are double bagged in plastic. Remember, tritium even in the form of tritium oxide will eventually escape whatever container it is in. Therefore, **do not** leave a device with potentially damaged tritium sources lying around in a storage area.

Any suspect device should be checked for illumination and wipe tested, if illumination is low or non detected. A device should be placed it in a storage area only if properly illuminated or determined to be clean by via a wipe survey. If a source is found to be broken, placed the device in a suitable radioactive waste container located in a designated Low Level Rad Waste (LLRW) storage area. **Do not place it on a storage shelf**.

A little work on a quarterly basis can save a lot of work at some later date.

Finally, and most importantly, the third purpose is to establish a permanent record that an area is radiologically clean. Unless a record exists to document that an area is radiologically clean, a closeout of that area would be a very expensive, time consuming process.

Change is inevitable. The building you are presently using for maintenance or storage may be used for something else in the future. There are specific, complicated, and expensive procedures that must be followed to document that a facility is clean enough to be released from radiological controls. Releasing an area where tritium was stored or worked, requires notification of the Nuclear Regulatory Commission and close out surveys in accordance with the MARSIM (an extensive multi-agency decommissioning protocol). If survey records show that an area has been free from tritium contamination or that it was properly decontaminated following any releases, these complicated processes will be minimized!

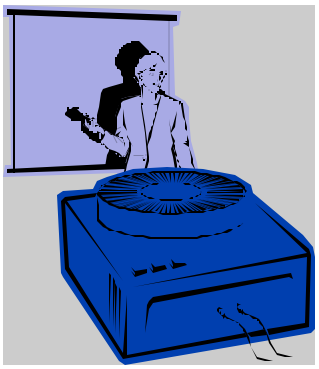
So! A little work on a quarterly basis can save a lot of work at some later date and that's a good thing!

If you have other questions about wipe surveys, or any other radiological safety issues, come to the upcoming Army Radiation Safety Officer Workshop. We will all benefit from your question … and especially the answers! Various licensees, MACOM RSO's and others, will be present to address these and other issues.

Make it a point to be with us at the **Sheraton Four Points Hotel**, Rock Island, IL, July 29-31, 2003.

Come and make it another success!
See you there!

Preparing Your Briefs



If you are presenting a briefing at the upcoming TACOM Workshop please take the time to prepare your briefing in PowerPoint. Following are some suggestion for keeping your briefs short and readily usable in PowerPoint.

Keep your PowerPoint file to less than 5 megabytes (MB) in size. Large file sizes can slow down the presentation or even cause the computer to crash. This is also the limit imposed on us for posting to the World Wide Web, and we intend to post all presentations following the workshop.

Submit your briefs to us at amsta-cs-czr@ria.army.mil by 11 July.

Inserting high-resolution photographs into your PowerPoint slides will more than likely cause the file size to exceed 5 MB. High-resolution photographs are not needed for a good presentation, and you can compress them with photo-editing software.

If you have "**Microsoft Picture**" and your photographs are (jpg), you can compress your file by clicking on "File" and then "Save As". Choose the checkbox for "Compression" and select the "Amount" of compression on the slider bar. The higher percentage of compression, the smaller the file size will become.

If you are using "**Microsoft Photo Editor**", click on "File" and then "Save As". (You may have to click on "More" to expand the window.) Then click on the "JPEG quality factor (1-100)". Please note that in this case a lower percentage means a smaller file size.

We encourage you to submit your briefings to us at amsta-cs-czr@ria.army.mil. no later than July 11th, 2003. Last minute presentations may be submitted at the workshop, but they must be on either a Compact Disk (CD), Zip Disk (100 MB) or a 3 1/2 inch diskette .

These brief instructions should ensure that your briefs are ready for the workshop as well as web-able following the workshop. Contact us with any questions or problems encountered.

USARNG RAD Safety Information Memorandum #2003-01

1. All Users and Direct Support Maintenance Personnel of U. S. Army Tank-automotive and Armaments Command - Rock Island (TACOM-RI) commodities which utilize radioactive components require radiation safety training as required by NRC License 12-00722-06 and Title 10 Code of Federal Regulations.

2. Users of TACOM-RI tritium fire control devices are those individuals who place in operation or operate the devices. Unit commanders are required to ensure that soldiers using the devices do so in compliance with the appropriate technical manuals.

3. Direct Support Maintenance Personnel are responsible for repair of TACOM-RI tritium fire control devices above the level of authorized operational checks and services performed by users of the devices. Direct Support Maintenance Personnel will receive initial radiation safety training that includes safe handling procedures; recognition of damaged sources in the devices; and handling procedures for devices with potentially damaged sources.

4. It is the responsibility of each unit commander and the installation RSO/State RSO to ensure this training is accomplished.

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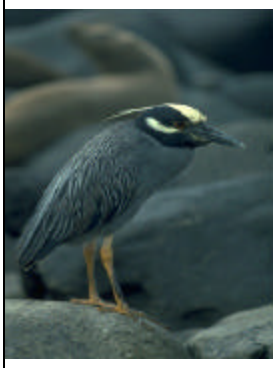
Demil & You



A little bird told me the other day that some people out there are taking it upon themselves to demil tritium fire control devices by removing the light sources prior to disposal of the device. If you or anyone on your post, or in your shop, are doing this I want to make sure that you understand you are WRONG, WRONG, WRONG! If you are performing unauthorized demilitarization of tritium items, you are in violation of NRC license conditions and therefore subjecting yourself, and the Army, to jeopardy with the NRC.

And how might we know you're doing these unauthorized actions, you might ask! If you should happen to break a tritium source while trying to improperly remove it from a fire control device and contaminate your shop, and/or get a dose of tritium in the process, you will have been found out. And trust me, this happens quite often!

You will then have some uncomfortable questions to answer. Questions such as: Who told you to do this? Where are your demil instructions? Did you check with the item manager? Did you call the licensee prior to beginning work? And, have you ever heard of willful license violations?

The first point is that there are no authorizing demil instructions for tritium fire control devices. Actually the Army no longer disposes of intact tritium sources. Devices with intact tritium sources are picked up by the Joint Munitions Command (JMC), Radioactive Waste Disposal Office, consolidated and shipped to Lawrence Livermore National Laboratory (LLNL) in California. JMC may also authorize you to send these devices directly to the ACERT Field Service Facility, at Rock Island Arsenal, where the sources are removed and sent to LLNL. At LLNL the Tritium is recovered for recycling into other uses. Devices with damaged tritium sources do not enter this recycling program and are therefore sent directly to a radioactive waste disposal site.

If you have any doubts about what procedures are authorized, look first to the technical manual for your level of maintenance. If after referring to the tech manual you still have doubts, talk it over with your supervisor, the post radiation safety officer or the licensee. Refer to the back page of this newsletter for licensee contact information.

Don't be shy about calling; we will get you the answers you need.

TACOM-RI License Compliance

Compliance + accountability = success. This equation, part of this year's workshop theme, requires individual responsibility.

Each and every Army RSO has a responsibility to manage their program in accordance with AR 11-9 and the various NRC licenses held by the Army. It is important that every RSO knows his or her responsibilities are.

To refresh our knowledge of these responsibilities, inherent with being an RSO, Mr. Thomas Gizicki, the new TACOM-RI Radiation Safety Office RSO, will be speaking about license 12-00722-06 compliance at our July workshop. Topics he will cover include training, surveys, postings, inventories, incident reporting, and record keeping.

The success of the any Radiation Safety Program rests on compliance and accountability, but your knowledge of and dedication to these concepts is the key!

'Travlin' With Your MC-1!!!

Going Outta' Town with your MC-1...?? Follow these 4 - Easy Steps for Deploying your Tester..!!

Recently, a few engineering units received their marching orders and have deployed overseas. These latest mobilizations have prompted a relook at the requirements for moving out with your MC-1 Soils Tester. So here they are:

STEP 1

Wherever the MC-1 Tester goes, so must a **qualified Radiation Safety Officer** (RSO). And who and how does one become a qualified RSO? By completing one of the following courses:

a. Radiological Safety Course, 7K-F3-494-F14, US Army Chemical School

b. Operational Radiation Safety Course, 4J-F2-494-F9, US Army Chemical School

c. Calibrator Custodian Course, US Army Chemical School and Technical Engineers Course (51T), US Army Engineer Center

d. Army National Guard RSO Course, CECOM DS

e. USAREUR Local Radiation Safety Officers Course

f. Or other training course approved by the TACOM Safety Office.

Prior to being issued your MC-1, a copy of your RSO training certificate was furnished to TACOM where it has remained on file. Now, when you contact them to let them know you're about to deploy with the Tester they can verify that your training is up to speed.

STEP 2

ONLY a qualified operator is authorized to use the Tester in the field and the operator's certificate must be on file with TACOM. A qualified operator is one who has attended the Operators training course conducted by U.S. Army Engineer Center, Ft. Leonard Wood, MO. When the Tester is deployed you must provide TACOM with the name of the operator who will be using the tester at the deployment site. As with the RSO, they will verify that the operator is listed in their database.

STEP 3

Packaging and Shipment. Let's break this down further. (I know we said 4 easy steps but we're running into some **potholes** here on Easy Street J.)

First: Prior to shipping the MC-1, a radiation survey as well as a contamination survey with a NUCON smear, must be performed on the outside of the shipping container. Send the NUCON wipe to the CECOM Radiological Lab for analysis and don't forget to document the results of both surveys on a Radioactive Material Movement Form (RMMF).

Second: Lets assume that the Tester will be deployed OCONUS and will probably be placed in a CONEX. International shipping requires that the CONEX containing the tester be placarded for Radiation, Class 7 material. In other words a placard for Class 7-Radioactive Materials must be placed **on all four sides of the CONEX.** The minimum dimensions for this placard is 250mm x 250mm.

NOTE:
As an alternative to using both placards and labels you may enlarge the Yellow II label to the dimensions of the Class 7 Placard (outlined above) and apply the enlarged Yellow II labels to all for sides of the CONEX.

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MAKING IT HAPPEN CONT.

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The workshop is a great place to network with your colleagues, meet the various licensees and RSOs, and refresh your memories on the resources available to you, such as training, assist visits, and incident response.

Cocktail party and dinner banquet
1800, Thursday July 31st

Remember, this is an **Army** Radiation Safety Officer (RSO) workshop. Participation is encouraged by all levels of personnel, including NBC personnel, National Guard (unit to state level RSOs), Army Reserves (unit to regional RSOs), regular CONUS/ OCONUS forces RSOs and MACOM RSOs.

This year's Workshop will be held at the **Four Points Sheraton**, Rock Island, IL. We will be hosting a welcome mixer featuring a cash bar and Hor d' oeuvres (or in english … snacks), on July 28th at 1800. The Workshop will officially begin on Tuesday July 29th at 0800 and conclude with a cocktail party and dinner banquet beginning at 1800 Thursday evening July 31st.

A tentative agenda will soon be posted on the TACOM-RI website (http://www.tri.ria.army.mil/LC/R/RS/workshop.htm). If there are any questions, please contact Wayne Cook, DSN 793-2429, (309) 782-2429, email: cookw@ria.army.mil or Cindy Ackerman, DSN 793-0861, (309) 782-0861, email: ackermanc@ria.army.mil.

Help us make this the best workshop ever!
Thank you for your continued support.

Iraqi War Souvenirs

After the 1991 Gulf War, many "souvenirs" were either mailed or brought home by our soldiers. Many were used as "conversational" pieces, prominently displayed in living rooms, on fireplace mantels, kitchen counters, or office desks.

Unfortunately, the new owners of these "collectables" were unaware that some of their souvenirs contain hazardous material in the form of radioactive sources. As units begin to re-deploy back to their home stations, commands need to be aware of the possibility that individuals may be bringing home items that may contain these and other hazardous materials.

Of greatest concern are items that were manufactured in the former Soviet Union. Also of concern are Radiac instruments with attached cesium or strontium/yttrium check sources with activities of up to 50 millicuries. Other small armored vehicle parts, that make great paper weights, have been found to contain Xenon. Compasses with varying amounts of radium have been confiscated by RSOs at various installations following the 1991 Gulf War. Many of these radioactive sources were found to be leakers!!

There are several ways to identify these items. One way is surveying the items with currently fielded Army Radiac meters, AN/VDR-2 or AN/ PDR-77. Another is referencing AST-1500Z-100-93, "Identification Guide for Radioactive Sources in Foreign Material". However, not all radioisotopes can be detected using fielded radiac meters, and not all foreign radioactive material is listed in AST-1500Z-100-93. The surest way to handle these items is to report the equipment to the Installation RSO who has access to resources which enable him or her to ascertain whether radioactive sources are present. See AR 11-9 1-4i(4).

Communication at all echelons is essential to prevent possible contamination by devices brought back as souvenirs! All Headquarters elements should take proactive measures to ensure their soldiers are aware of these hazards, and the dangers of having these items in their homes or office.

Let's not repeat mistakes made after the Gulf War!

'TRAVLIN' CONT

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Third: Radioactive Yellow II labels must be affixed on **two** opposite sides of the CONEX.

Fourth: If the tester in its DOT 7A orange container is placed in a over pack, the outside of the over pack must have 2 Yellow II labels and the statement " INNER PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS" prior to being placed in the CONEX. **Do not put 7A labels on the over pack or the CONEX**.

STEP 4

Now that we've got you all packed up and ready to go what are the responsibilities of the RSO once you get to the deployment site?

Surveys, Surveys, and more Surveys: A pre-placement radiation survey to include background readings; an initial survey with the tester(s) in place; semiannual radiation surveys; surveys when changes occur to the storage area; and a termination survey of the MC-1 Tester Storage Area are required. All surveys will include a sketch of the storage area and must be performed with an Actively Calibrated AN/VDR-2 or equivalent survey meter. Surveys consist of only radiation instrumentation readings with the exception of the termination survey, which requires wipe tests and instrument readings. As always, TACOM must be provided a copy of all surveys with the exception of the routine semi-annual survey.

Dosimetry: As an RSO for the MC-1 you already knew that dosimetry is required. Generally the change out frequency is monthly. However, if you are deploying OCONUS the **change out frequency is quarterly**.

Storage Area Postings:
The requirements remain the same:

a. NRC Form 3 will be posted at tester storage areas.

b. A notice will be posted at the tester storage area of where Title 10 CFR Parts 19, 20 and 21, NRC License and radiation safety SOP can be obtained/reviewed.

c. Section 206, Energy Reorganization Act of 1974 (Public Law 93-438) will be posted at tester storage areas.

d. Caution Radioactive Material Signs posted on entrances leading to tester storage areas and on the metal storage containers stored in occupied areas.

Installations or activities located where non-English languages are prevalent should post signs that include a translation on those languages.

Emergencies: Finally, TACOM requires they be contacted immediately if any radiation safety defect or hazard is evident to include incidents/accidents and theft of the soils tester.

As you can see there are many issues that must be resolved prior to deploying with your MC-1. Remember that the tester cannot be relocated without receiving prior authorization from TACOM-Warren.

For questions or concerns regarding MC-1 safety or movements, contact the TACOM-Warren Safety Office @ DSN 786-7635 / or Commercial (586)574-7635 / Fax (586) 574-5277. ☆

INFO MEMO #2003-01 CONT.

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5. Training must be documented. The documentation should include a memorandum signed by the trainer stating who, what, where, when and why training was given. In addition, a brief synopsis of the major training topics and sign-in sheet should be attached to the memorandum.

6. Training records will be maintained on file (MARKS file number 11-9e2) at the installation for review by the State RSO, the Radiation Safety Staff Officer, or the NRC licensee.

7. For further information, contact the NGB Radiation Safety Staff Officer at:
DSN 987-3112 or Commercial (732) 427-3112.

TACOM-Rock Island Safety

Visit us on the WEB!
Http://www.tri.army.mil/LC/R/RS/safe.htm

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