



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
UNITED STATES ARMY TANK - AUTOMOTIVE AND ARMAMENTS COMMAND  
ARMAMENT AND CHEMICAL ACQUISITION AND LOGISTICS ACTIVITY  
ROCK ISLAND, ILLINOIS 61299-7630

January 27, 1998

*Damage Source*

Safety Office, Armament and Chemical Acquisition  
and Logistics Activity

*12-00722-06*  
*03013027*

Mr. Jamnes Cameron  
U.S. Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Dear Mr. Cameron:

Enclosed with this memorandum is information concerning the contamination event at Aberdeen Proving Grounds (APG), Ordinance Center and School (OC&S) reported to the NRC Operations Center on 2 Dec 97.

The event involved an aiming post light containing 9 Curies of tritium. The aiming post light was being demonstrated by an instructor in a classroom. The instructor dismantled the device and dropped the tritium source, breaking it.

Enclosure (1) is the initial report to the Operations Center. Enclosure (2) is the Ordinance Center and School's response to this office's standard request for a report on the incident. Enclosure (3) provides a chronology of events following the breakage.

The instructor provided a written statement of what took place in this event (Enclosure 4). Dismantling of the device is not authorized under any conditions, nor was the instructor authorized to work on radioactive commodities.

Fifteen individuals were bioassayed as a result of the event. Two people had an uptake of tritium, the highest exposure being .2 millirem (Enclosure 5). The two people with measurable exposure were the two involved in bagging the broken vile. The breakage resulted in the contamination of the classroom and required extensive cleanup. A large number of tiles were eventually removed to affect the cleanup of the classroom. The room was released after surveys by U.S. Army Center for Health Promotion and Preventive Medicine indicated area contamination was below established limits (Enclosure 6).

9901250229 980127  
PDR ADOCK 03013027  
C PDR

*1E-72*

JAN 28 1998

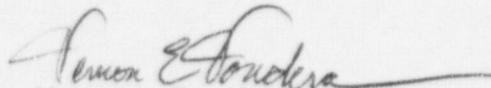
The Training and Doctrine Command (TRADOC) has issued memorandum emphasizing the schools should no longer use devices containing radioactive materials for classroom demonstrations and that they are not authorized to remove the radioactive sources (Enclosure 7).

Finally in enclosure 8 are copies of electronic mail messages sent between the School and higher headquarters delineating corrective actions to be implemented by 31 Mar 98.

This office will be in contact with APG, OC&S to ensure corrective actions are completed.

The point of contact for this action is Mr. Timothy J. Mohs, AMSTA-AC-SF, (309) 782-6228.

Sincerely,

  
Vernon E. Vondera  
Chief, Safety Office

## ***Radiation Incident***

**INCIDENT NO** 98-06      **INSTALLATION** APG Bldg. 5016 Weapons  
**DATE REC'D** 02 Dec 97      **ORGANIZATION** Ordinance Center and School (OCS)  
**TIME REC'D** 08:38      **REPORTED BY** Rafael CorpuzFrank Majews

**STATUS** OPEN

**PHONE** 298-0297/9025

**ITEM** Aiming Post (M58)

**ISOTOPE** H3

**CURIE** 5 Ci

**LICENSE** 12-00722-06

**INCIDENT** Broken tritium source

**DATE** 01 Dec 97

**10 CFR**

**DESCRIPTION** During training the instructor was demonstrating fire control devices. He presented an M58 Aiming Post Light and was showing the students its illumination when it was noticed that it was not lit. The instructor proceeded to take the M58 apart in front of the class. While taking it apart, he dropped the glass vial which broke upon impact. The classroom was evacuated and all personnel present when the vial broke instructed to provide a urine sample for bioassays. Wipes were taken and preliminary results indicate greater than 700,000 dpm. The room was isolated and wipes taken are being counted. Further wipes are to be taken to determine the extent of the contamination. The licensee RSO is flying to APG to ascertain the extent of the contamination and direct further actions. Actions will also be taken to regain confidence that the APG radiation protection program is properly in place and implemented.

**RPO** Rafael Corpuz

**PHONE** DSN 298-0297

**E-MAIL** rcorpus@apg.army.mil

**RPO NOTIFIED**

**RPO RPT DUE** 17 Dec 97

**RPO RPT REC'D**

**GC** COL Roslyn M Glantz

**PHONE** DSN 298-1511

**E-MAIL** steapco@apg-9.army.mil

**GC NOTIFIED**

**NRC** **DATE NRC NOTIFIED** 02 Dec 97

**TIME NRC NOTIFIED** 13:47

**NRC POC** Fangie Jones

**NRC REF NO** 33339

**NRC RPT DUE** 01 Jan 98

**NRC RPT SENT**

### ***PRODUCT CENTER TO CONTACT***

**ARMOR** No

**ARTY** No

**ARMS** No

**CHEMICAL** No

**ROOT CAUSE** stupidity

**Monday, December 15, 1997**

**Page 8 of 9**

Encl (1)





REPLY TO  
ATTENTION OF

ATSL-SEO (385)

DEPARTMENT OF THE ARMY  
U.S. ARMY ORDNANCE CENTER AND SCHOOL  
ABERDEEN PROVING GROUND, MARYLAND 21005-5201

31 December 1997

MEMORANDUM FOR DIRECTOR, ARMY CHEMICAL AND LOGISTICS AGENCY,  
ATTN:AMSTA-AC-SF (MR TIM MOHS), ROCK ISLAND,  
ILLINOIS 61299-7630

SUBJECT: RADIOLOGICAL INCIDENT REPORT

1. On 1 December 1997, a radiological incident occurred at the U.S. Army Ordnance Center and School (USAOC&S) involving a vial of tritium from an M58 sighting device. The incident occurred in building 5016, room E-12, Aberdeen Proving Ground, Maryland. One instructor, twelve students, the safety officer for the building, and a person who assisted with the cleanup were potentially exposed to radiation.

a. Description of licensed material involved kind, quantity, chemical and physical form:

Tritium, 5.0 curies, gas.

b. Description of circumstances under which the incident occurred:

SSGT Mark Roman, a Marine Corps instructor, was instructing on the potential hazards and safety procedures associated with the M58 sighting device when he thought that the tritium element in one of the devices was out of alignment. He removed the cap of the M58 to re-align the tritium vial. As SSGT Roman was taking the M58 apart, he informed his students that this was an illegal procedure. SSGT Roman was distracted and the tritium vial fell to the floor of the classroom and broke.

c. Description of disposition, or probable disposition of the licensed material involved:

The safety officer for the building, Mr Barney Miller, and SSGT Mark Roman immediately double bagged the broken tritium vial. The bagged material was turned over to the Installation Radiation Office for disposal as contaminated waste.

d. Exposure of individuals to radiation and the possible total effective dose equivalent to persons in unrestricted areas.



The following personnel received the following dosage:

SSGT Roman received 0.1 MREM  
Mr. Miller received 0.2 MREM

Bioassays were performed at Kirk U.S. Army Health Clinic. The analysis was conducted by the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM). The analysis report is enclosed for your information.

Bioassays were performed on the twelve students and the person who assisted with the cleanup. No radiation uptake was found in these personnel.

e. Actions taken to recover the material:

The building safety officer (Mr Miller) and the instructor (SSGT Roman) immediately doubled bagged the broken tritium vial. The bagged material was turned over to the Installation Radiation Office for disposal as contaminated waste.

f. Procedures or measures that have been or will be adopted to ensure against the reoccurrence of the event. Please identify any common threads if a similar event has occurred at that location previously.

The USAOC&S is taking two actions to prevent reoccurrence of the event:

(1) Removal and turn-in of all tritium devices. Tritium elements are unnecessary for instruction in the USAOC&S. Target date for completion of this action is 31 March 1998.

(2) Radiological instruction for instructors, environmental and safety personnel, and those designated as Radiological Protection Officers and Assistant Radiological Protection Officers. This instruction is scheduled to begin in early January 1998 and will be taught by highly qualified personnel from CHPPM.

Although the USAOC&S did have incidents on 14 and 23 April 1997, no common thread can be identified.

2. Points of contact for this action are Mr. Frank Majewski and SFC Ellis Haveman at DSN 298-3418/3654.

*Frank E. Majewski*

FRANK E. MAJEWSKI  
Safety and Environmental Manager

Author: f\_majewski\_at\_bldg\_\_3072@ocs2.apg.army.mil at SMTP-DDN  
Date: 12/10/97 10:24 AM  
Priority: Normal  
BCC: TMOHS\_at\_ril081w2  
TO: tmohs@ria-emh2.army.mil at SMTP-DDN  
Subject: Initial report on tritium incident 1 Dec 97 Bldg 5016

1. Summary of Incident: On 1 December 1997 Instructor SSGT Mark Roman, USMC, while instructing his class, broke the tritium element in a M-58 sighting device. This incident resulted from illegal disassembly of the sighting device. The students were evacuated immediately and the classroom ventilated and locked.

Day 1 (December 1, 1997)

- 0830 Incident occurred
- 0840 OC&S Safety Office notified by training department of incident
- 0845 SFC Haveman, Safety NCO checked procedural protocol w/Mr. Bennett, Command Planning Group (Safety Manager, Mr. Majewski was on annual leave).
- 0855 Safety NCO notified Directorate of Safety Health and Environment (DSHE), APG Md.
  - 0930 Mr. Ford, DSHE sealed Rm. E12, Bldg 5016 and janitor cleaning closet where the instructor and Mr Miller washed after incident and recovery of the broken tritium vial.
  - 1035 Mr. Ford DSHE, surveyed the site for contamination (wipe samples).
- 0900 Safety NCO notified TRADOC Safety Office Mr. Duke by voice mail.
- 0905 Safety NCO notified The Armament and Chemical Acquisition and Logistics Activity (ACALA), Health Physicist, Mr. Tim Mohs @ Rock Island Ill.
- 1400 Bioassays for the 12 students, one instructor, and Mr. Barney Miller Bldg 5016 Safety Officer were conducted at Kirk Army Health Clinic, APG, Md.

Day 2 (2 December, 1997)

1. Survey results from 1 Dec. 97 showed three (3) elevated readings in the impact area.
2. Area was deconed and a second survey was conducted by DSHE, rewiping areas where elevated readings were noted. SP4 Satterfield (assisted in the cleanup).
3. SFC Haveman prepared the individual incident report sheets for all personnel involved in the incident.

Day 3 (3 December 1997)

1. ACALA representative Mr. Tim Mohs arrived at APG, DSHE to investigate incident.
2. At approximately 0900, Mr Mohs met with Col Allen, Chief of Staff, Mr Majewski, Mr Bennett, SFC Haveman, and Mr Corpuz, Post Radiation Officer, DSHE.
3. Mr. Mohs interviewed the OC&S Safety Manager Mr.

Enc1 (3) 1 of 3

Majewski and inspected the incident site Rm (E-12), and the arms room of bldg 5016. Additionally, he interviewed SSGT Mark Roman, instructor & Mr. Barney Miller, Weapons Department Safety Officer (who assisted in bagging of the broken tritium vial). Mr Mohs also inspected bldgs 3144 (Fire Control) and 5046 (Turret Repair and NCOPD)

4. Two elevated readings from the bio-surveys were noted. One, on the instructor SSGT Roman and the other on Mr. Barney Miller. (Believe this was due to there exposure in bagging the broken tritium vial). The level of readings were very low and no health hazards are expected due to there exposure.

Day 4 (4 December, 1997)

1. SP4 Satterfield who assisted in the 2 Dec. 97 cleanup was bioassayed due to the continued elevated readings in the impact area and his involvement in the follow-up clean up.
2. Results from the second decon on 2 Dec. 97 showed two remaining elevated readings in the impact area.
3. Meeting - DOI conference room with Col Allen, Mr Corpuz, Mr Majewski, Mr Mullins, SFC Haveman, Mr Albers, Cpt Beckman, Mr Bennett, and Mr Zello. Purpose of meeting - to formulate plan of action to eliminate all tritium at OC&S.
4. Mr Mohs, Mr Majewski, and Mr Bennett visited CHPMM (to pick up survey results and have survey wipes of ceiling intakes of room E-12, bldg 5016 analyzed - results were negligible) and the AIT bldg E-4301.
5. It was evident to Mr Mohs that tritium was not required for the OC&S training base. Consequently, he directed that the OC&S remove all training devices with tritium from the school house and ship to the item manager for exchange for items without tritium ASAP. His justification for this decision is based on regulation (AR 385-11) that states we are only allowed the amount of tritium As Low As Reasonably Achievable (ALARA) to meet our school training requirements. Since our training does not require tritium to train we will remove it from our training base.

Day 5 (5 December, 1997)

1. 0930 - Meeting with the NRC. Attendees include the Col Allen, Mr Majewski, Mr Bennett, Mr Corpuz, Mr Mohs, Mr Richard Gibson, (NRC Health Physicist), and Ms Sherri Arredondo (NRC Health Physicist).
2. NRC team toured and investigated incident site and interviewed SSGT Roman and students. They also took several wipes of incident room E-12.
3. Unofficial report at outbrief stated that the final report would be ready in 30 days and that time ACALA will be informed of any deficiencies.

Enc 1 (3) 2 of 3

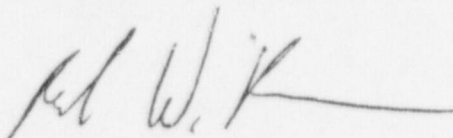


4. The Chief of Staff, Col Allen, and his action officer Mr Bennett, Command Planning Group accompanied the NRC throughout their entire inspection. Mr Bennett has been tasked by the Chief of Staff and the AC to remain with this project full time until all tritium is gone from the OC&S training base. This is a command group top priority project.

# MEMORANDUM FOR THE RECORD

Subj: Tritium Spill In Bldg. 5016, 0830 Hours, 1 December 1997

1. I, SSgt Mark W. Roman, [REDACTED] was giving training on the initial set up of and Preventative Maintenance Checks and Services (PMCS) of the M252 Mortar. During this training a vial of tritium in the M85 Aiming Post Light was broken. Following is a sequence of events.
2. I had finished demonstrating the initial set up of the mortar and pulled out the M64A1 sight unit. As I the proper set up of the M64A1 sight unit I the safety precautions to the radioactive hazards contained in the sight and aiming post light. I mentioned the radiological safety kit that should be present in an armory, people that should be contacted in case of a spill, i.e. RSO or fire department, and to evacuate the area. I thought this was a good time to the Hazardous Communications training received during BK&S.
3. While showing them the Aiming Post light (M85,M59) and discussing the PMCS for them, I noticed that the color in one of the green lights was out of position. So I decided to open the M85 Aiming Post Light to correct a very minor problem. I told the students that they would find of tampering with the lights done by the crew. I told them that tampering with the light by the crew was not allowed and that they should prevent this by sealing the light with silicon sealer. I removed the vial and began to adjust it. For a moment I got distracted and when I turned back to replace the vial it slipped and broke on the floor.
4. As soon as I realized that the vial was broken I told the students to evacuate the room. The students and I immediately left the room and closed the door. I notified my supervisors of the breakage. From that point the word was passed up the chain of command.
5. Mr. Miller arrived and went into the room to open the windows and to make an initial observation of the breakage. He told me to get plastic bags. When I returned Mr Miller made the initial clean up using the plastic bags provided. We left the room and secured the door and proceeded directly to the gear locker to wash our hands.
6. By this time Karl Ford and SFC Havaman had arrived on the scene.



Mark W. Roman  
SSgt/USMC  
Instructor/Small Arms Branch/Conventional

Weapons Division

Encl (4)



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE  
6158 BLACKHAWK ROAD  
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

08 DEC 1997

MCHB-TS-OMH (40-14c)

MEMORANDUM FOR Chief, U.S. Army Ionizing Radiation Dosimetry  
Center, U.S. Army Test Measurement and  
Diagnostic Equipment Activity, ATTN:  
AMSMI-TMDE-SR-DD/Bldg 5417, Redstone Arsenal,  
AL 35898-5400

SUBJECT: Interpretation of Bioassay Results

1. See enclosure 1 for a list of references.
2. As requested, the bioassay results provided to us have been used to estimate radionuclide uptake and dose for the individuals involved in the incident monitoring at Aberdeen Proving Ground, Maryland involving broken tritium device (USAIRDC Account Code: OK).
3. The estimated doses were calculated using the RBD computer package, and are listed below.

NAME	SSN	Dose in mrem
BRENNAN, [REDACTED]	[REDACTED]	0.0
BROYLES, [REDACTED]	[REDACTED]	0.0
CARLYSLE, [REDACTED]	[REDACTED]	0.0
ECKERT, [REDACTED]	[REDACTED]	0.0
EDWARDS, [REDACTED]	[REDACTED]	0.0
ERQUIAGA, [REDACTED]	[REDACTED]	0.0
GLEASON, [REDACTED]	[REDACTED]	0.0
GLEASON, [REDACTED]	[REDACTED]	0.0
HOLTON, [REDACTED]	[REDACTED]	0.0
MARSH, [REDACTED]	[REDACTED]	0.0
MILLER, [REDACTED]	[REDACTED]	0.2
PAUL, [REDACTED]	[REDACTED]	0.0
ROMAN, [REDACTED]	[REDACTED]	0.1
WILLIAMS, [REDACTED]	[REDACTED]	0.0
ZHOU, [REDACTED]	[REDACTED]	0.0

Readiness thru Health

Encl(5) 1 of 3



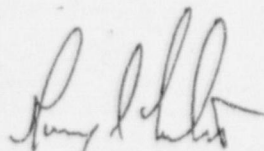
MCHB-TS-OMH (40-14c)

SUBJECT: Interpretation of Bioassay Results

A committed dose report (enclosure 2) for each individual is provided IAW AR 40-14. For bioassay results above the detection limit, estimated doses were verified using hand calculations.

4. The point of contact is Mr. Sam Dunston, DSN 584-3548.

FOR THE COMMANDER:



GARY J. MATCEK  
MAJ, MS  
Program Manager

2 Encls  
as

CF W/O ENCL 2:

CDR, ACALA, ATTN:AMSTA-AC-SF (Safety Office)  
OIC, Kirk U. S. Army Health Clinic

#### REFERENCES

1. Radiological Bioassay and Dosimetry (RBD) Software Package, Version 4.1, 1 August 1992.
2. AR 40-14, Occupational Ionizing Radiation Dosimetry, 30 June 1995.
3. DA Pam 40-18, Personnel Dosimetry Guidance and Dose Recording Procedures for Personnel Occupationally Exposed to Ionizing Radiation, 30 June 1995.
4. ICRP Publication No. 54, "Individual Monitoring for Intakes of Radionuclides by Workers: Design and Interpretations," 1988.
5. Memorandum, U.S. Army Center for Health Promotion and Preventive Medicine, MCHB-DC-LRC, 01 Dec May 1997, subject: Bioassay Results.



DEPARTMENT OF THE ARMY  
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE  
6166 BLACKHAWK ROAD  
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO  
ATTENTION OF  
HCHS-TS-LRD (40-5f)

MEMORANDUM FOR Commander, Ordnance Center and School, ATTN: ATEL-SEO  
(Mr. Majewski), Aberdeen Proving Ground, MD 21005-5001

SUBJECT: Analytical Requirements

1. References:

a. Telephone conversation between Mr. Poyer, this Center, and Mr. Corpus, U.S. Army Garrison, APG, 6 Jan 98, subject: Preliminary Results of Analysis for Samples K2206 through K2214.

b. Telephone conversation between Mr. Poyer, this Center, and Mr. Corpus, U.S. Army Garrison, APG, 7 Jan 98, subject: Final Results of Analysis for All Samples.

c. Telephone conversation between Mr. Poyer, this Center, and Mr. Majewski, Ordnance Center and School, APG, 7 Jan 98, subject: Final Results of Analysis for All Samples.

2. This report complies with the requirements of the American Association for Laboratory Accreditation (A2LA), therefore, "this report shall not be reproduced except in full without the written approval of the laboratory. The results relate only to the specified samples identified within this report." Other required compliance information is listed in the enclosure.

3. Results of analyzing wipe test samples 1 through 9, and 11 through 18, (laboratory numbers K2206 through K2222, respectively) for tritium activity are listed in the enclosure.

4. Each result's activity,  $\pm 1.96$  standard deviations due to counting uncertainty, is in units of disintegrations per minute per wipe test sample, (dpm/wipe).

5. A copy of this report is being provided to Mr. Rafael Corpus, U.S. Army Garrison, APG.

6. Point of contact for additional information on project number 79-23-1236, (report number SASE20-M1), is Mr. Dennis Poyer, extension 5-3983.

FOR THE COMMANDER:

*Ronald J. Swatski*

RONALD J. SWATSKI  
Chief, Radiologic, Classic and  
Clinical Chemistry Division

Encl  
as

*Readiness thru Health*

OPTIONAL FORM 90 (7-90)

FAX TRANSMITTAL

# of pages = 5

TO: MOHS	From: MAJEWSKI
Dept./Agency: Safety	Phone #: 298-3418
Fax #: 793-6758	Fax #: 298-4129

NSN 7540-01-217-7300

5095-101

GENERAL SERVICES ADMINISTRATION

Encl (6) (1 of 5)



Date of Collection: Samples 1 through 9 - 30 Dec 97  
 Samples 11 through 18 - 05 Jan 98  
 Date of Sample Receipt: 06 Jan 98  
 Counting Date: 06 Jan 98  
 Sample Size Counted: 1 wipe, each  
 Instrument: Beckman Liquid Scintillation Counter, LS9800  
 Count Time: 20.00 minutes  
 Lower Limit of Detection: ranged from 11 dpm/wipe to 12 dpm/wipe  
 Variations to Accepted Method: None  
 Method Name and Number: Tritium by LS Wipe Counting, E\_003.001

Results of Analyzing Wipe Test Samples

Sample Identification	Lab Number	Disintegrations per Minute Per Wipe Test Sample ± 1.96 Standard Deviations
		Tritium
1	K2206	8 ± 7
2	K2207	4 ± 7
3	K2208	4 ± 7
4	K2209	1 ± 7
5	K2210	13 ± 7
6	K2211	3 ± 7
7	K2212	5 ± 7
8	K2213	4 ± 7
9	K2214	3 ± 7
11	K2215	42 ± 8
12	K2216	21 ± 8
13	K2217	19 ± 7
14	K2218	11 ± 7

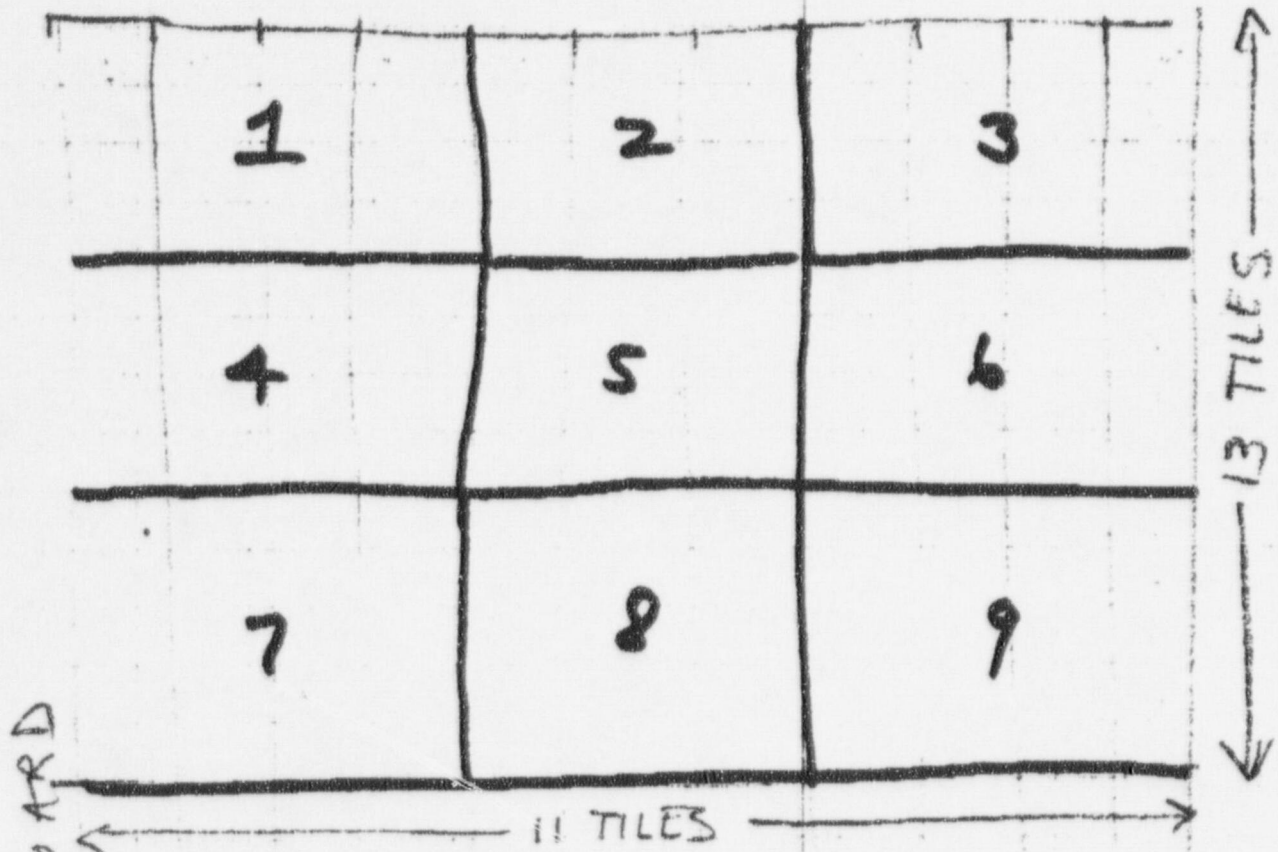
Enclosure, Page 1 of 2

## Results of Analysing Wipe Test Samples

Sample Identification	Lab Number	Disintegrations per Minute Per Wipe Test Sample ± 1.96 Standard Deviations
		Testing
15	K2219	10 ± 7
16	K2220	8 ± 7
17	K2221	10 ± 7
18	K2222	10 ± 7

Enclosure, Page 2 of 2

## WINDOWS



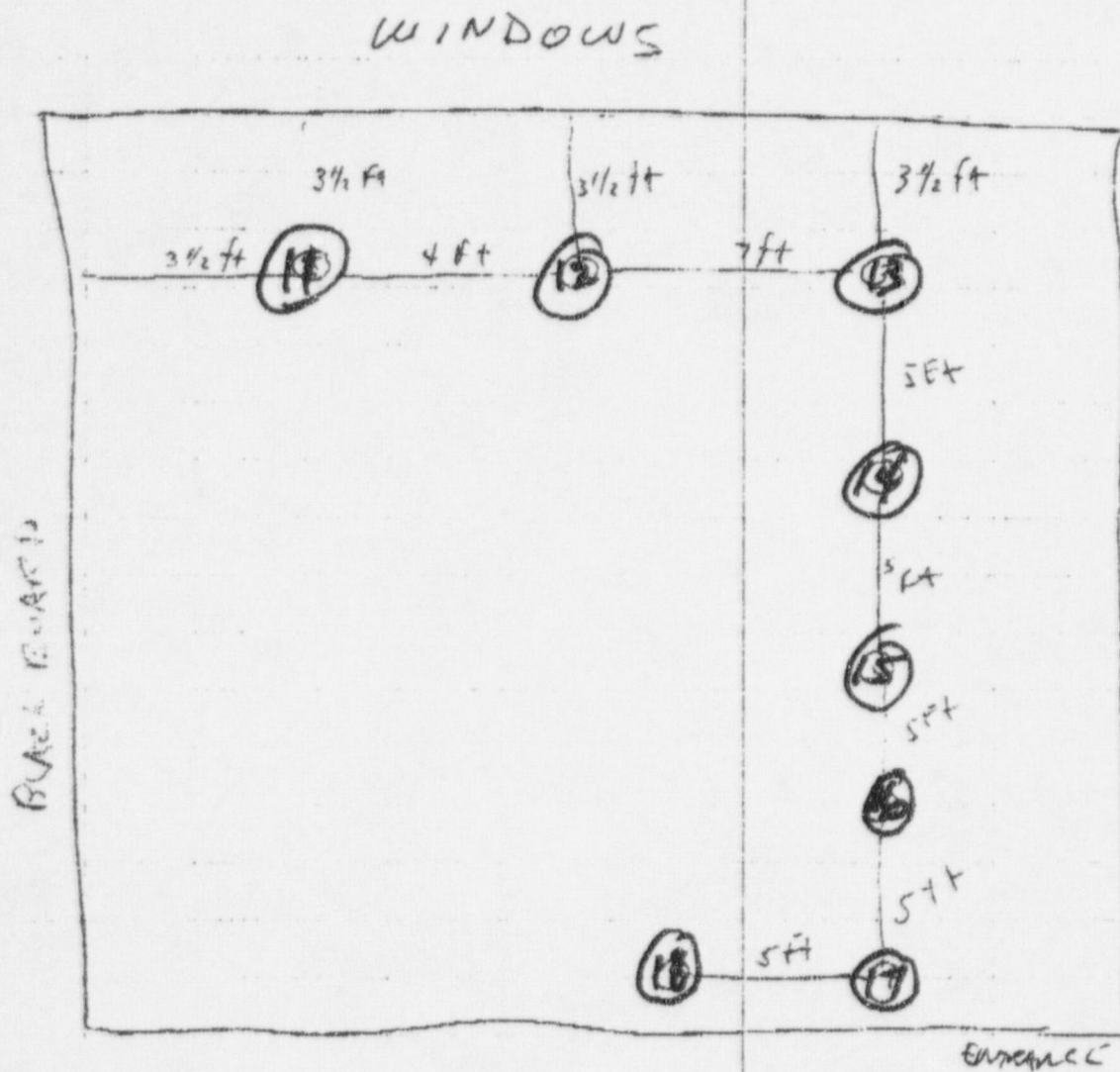
Room E-12

30 Dec 1997

1045

ENTRANCE





6 JAN 1998

Room E-12

1415

Author: VVONDERA at ri1081w2  
Date: 12/8/97 12:48 PM  
Priority: Normal  
TO: TMOHS, GZIEGLER, JHAVENNE  
Subject: Tritium Devices in Schools

Date: Mon, 8 Dec 97 07:46:25 -0500  
Message-Id: <H0000471081a2273@MHS>  
Subject: Tritium Devices in Schools  
Sender: duke@  
FROM: duke@  
TO: ilesj@doimex1.sill.army.mil  
X-coding: 52 message

Date: Fri, 5 Dec 97 16:40:26 -0500  
Message-Id: <H00004710819d848@MHS>  
Subject: Tritium Devices in Schools  
Sender: duke@  
FROM: duke@

TO: anthonyv@mcclellan-emh2.army.mil,  
barneso@jackson-emh1.army.mil,  
beighler@benning-emh2.army.mil,  
buzhards@emh1.gordon.army.mil,  
cox@rucker-emh3.army.mil,  
safety@iquest.com,  
davism@lee-dns1.army.mil,  
atzhpm@emh1.gordon.army.mil,  
fittsl@leav-emh.army.mil,  
goodrumj@emh1.gordon.army.mil,  
heranb@huachuca-emh1.army.mil,  
aielloj@Carlisle-emh2.army.mil,  
kingr@ftknox-emh19.army.mil,  
lundiej@lee-dns1.army.mil,  
macklinw@pom-emh1.army.mil,  
fmajewski@ocs2.apg.army.mil,  
safety@doimex1.sill.army.mil,  
praterb@emh10.bliss.army.mil,  
safety@sill-emh1.army.mil,  
testermh@jackson-emh4.army.mil,  
vantreed@emh10.monroe.army.mil,  
waltonj@wood-emh1.army.mil,  
welcher@eustis-emh1.army.mil,  
woolseyd@wood-emh1.army.mil,  
zielinsj@pom-emh1.army.mil  
CC: besseltr@eustis-emh1.army.mil  
X-coding: 19 text

SAFETY MANAGERS....PLEASE PASS TO YOUR RPOs AND SCHOOLS.

1. During the past 3 months we have experienced two incidents involving firing control devices or other items containing Tritium. The incidents inadvertently occurred while instructors were demonstrating the use of the devices.

2. Tritium is a radioactive gas, licensed by the Nuclear Regulatory Commission (NRC). It is perfectly safe while contained within its glass ampoule, but when the ampoule breaks the gas is released into the breathing zone of the user, creating a radiological exposure. The surrounding area/students may become contaminated and the spill is sometimes difficult to clean-up. Also, there's lots of explaining to do, tests and bioassays to go through, and lots of paper work to fill out...and maybe even fines to be paid to the NRC.

Encl (7) 143

3. We can avoid all this by using devices/items void of tritium, when training students in classrooms. Recommend your schools/instructors demonstrate and teach use of these items with the tritium removed, if possible, and if it will not significantly diminish the training. Of course the items will have to be labeled "For training only".



Author: VVONDERA at ri1081w2  
Date: 12/8/97 12:48 PM  
Priority: Normal  
TO: TMOHS, GZIEGLER, JHAVENNE  
Subject: UPD: TRITIUM DEVICES IN SCHOOLS

SAFETY MANAGERS....PLEASE PASS TO YOUR RPOs.

RPOs.....Reference my last recommendation regarding subject....(an over sight on my part) DO NOT ALLOW SCHOOL PERSONNEL TO REMOVE THE TRITIUM AMPOULES FROM THE DIVICES. To begin with, they may not be qualified to do so...and secondly, we want to be sure the amploules are properly handled and controlled. HERE'S THE IMPORTANT PART...ADVISE YOUR SCHOOLHOUSE PEOPLE THAT ACALA WILL PROVIDE THEM TRAINING PIECES, WITHOUT TRITIUM, UPON THEIR REQUEST. To order "Tritium free" devices, contact Mr. Vernon Vondera, ACALA Safety Office, DSN 793-1690.

It is very important that you talk with your schoolhouse people about this at your earilest convenience...IT'S IMPORTANT THAT WE BE PROACTIVE WITH THIS ONE. Thanks....and Happy Holiday.

Encl(7) 343

Author: J ALLEN at BLDG\_3071  
Date: 12/16/97 11:18 AM  
Priority: Normal

F MAJEWSKI at BLDG\_3072  
T ZELLO at BLDG\_3072, C ALBERS at BLDG\_5016, A TOBIN at BLDG\_5043,  
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Subject: Re[3]: Elimination of Tritium Devices from USAOC&S Training

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All the best, COL Allen

Forward Header

Subject: Re[3]: Elimination of Tritium Devices from USAOC&S Training  
Author: DICKINSON at BLDG\_3071  
Date: 12/16/97 8:22 AM

THANKS, JOHNNIE.

TD

Reply Separator

Subject: Re[2]: Elimination of Tritium Devices from USAOC&S Training  
Author: J ALLEN at BLDG\_3071  
Date: 12/16/97 8:15 AM

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V/R, Johnnie

Reply Separator

Subject: Re: Elimination of Tritium Devices from USAOC&S Training  
Author: DICKINSON at BLDG\_3071  
Date: 12/16/97 7:58 AM

Encl (8) 1.04

TD

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CCMail below is proposed draft from you to GEN Wilson; CC: MG Brown, MG Beauchamp, MG Link, MG Andrews, MG Goff, BG Sculley, COL Glantz, Mr. Jim Morgan, COL Button, COL Allen, Mr. Childress.

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- CHPPM will conduct close out surveys to verify elimination of hazards and any residual contamination from equipment and training areas.

We expect to complete the elimination process by 31 Mar 98. I will keep you informed of our progress and completion. Go Ordnance!

Very Respectfully,

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Encl (3) 254



Author: J ALLEN at BLDG\_3071  
Date: 12/16/97 11:18 AM  
Priority: Normal

Re: F MAJEWSKI at BLDG\_3072  
a T ZELLO at BLDG\_3072, C ALBERS at BLDG\_5016, A TOBIN at BLDG\_5043,  
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Date: 12/16/97 8:22 AM

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Subject: Re: Elimination of Tritium Devices from USAOC&S Training  
Author: DICKINSON at BLDG\_3071  
Date: 12/16/97 7:58 AM

Encl (8) 1 of 4

WHY WILL IT TAKE TILL MARCH TO COMPLETE THE TURN IN?

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Author: DICKINSON at BLDG\_3071  
Date: 12/10/97 10:31 PM  
Priority: Normal

: R CHILDRESS at BLDG\_3071, T ZELLO at BLDG\_3072, C ALBERS at BLDG\_5016,  
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IC: L ALEJO at BLDG\_3072, F MAJEWSKI at BLDG\_3072, E BENNETT at BLDG\_3071,  
E HAVEMAN at BLDG\_3072  
TO: J ALLEN at BLDG\_3071  
Subject: Re: UPD: TRITIUM DEVICES IN SCHOOLS

TROOPS,

I HAVE MORE PHONE CALLS ON THIS INCIDENT THAN ON ANY OTHER. GET THE MESSAGE? THE ENTIRE ARMY KNOWS THAT WE HAVE NONCHALANTLY FAILED TO TAKE POSITIVE ACTION, THUS, A SECOND INCIDENT. THERE WILL NOT BE A THIRD! REPEAT, THERE WILL NOT BE A THIRD.

TURN IT IN, LOCK IT UP OR WHATEVER. I WANT EVERY INSTRUCTOR TOLD WHAT THE RULES ARE AND HAVE THEM SIGN A STATEMENT INDICATING THAT THEY WERE MADE AWARE OF THE RULES OF ENGAGEMENT REGARDING TRITIUM AND ANY OTHER ISOTOPE ETC THAT WE MAY HAVE. THEN IF THEY VIOLATE THE POLICY, THEY ARE IN SERIOUS TROUBLE. WANT THIS DONE NLT COB THIS FRIDAY.

TD

Reply Separator

Subject: UPD: TRITIUM DEVICES IN SCHOOLS  
Author: J ALLEN at BLDG\_3071  
Date: 12/8/97 7:06 PM

Directors, Division Chiefs, Supervisors,

CCMail below is TRADOC's response to the latest tritium spill at USAOC&S. Incident resulted due to a knowledgeable instructor knowingly performing an unauthorized procedure to a tritium vial located on a mortar aiming stake.

This incident is getting high visibility from ACALA and the Nuclear Regulatory Commission since we also had a similar incident last April. Perception is that we cannot correct our problem because we apparently have failed to implement corrective actions. We have TMs, POIs, and other guidance which prohibits unauthorized procedures, yet our instructors ignore the warnings and risk the safety of their students and themselves.

Our immediate corrective action is to make USAOC&S void of tritium and eliminate the source of our safety problem. To accomplish this goal, we are taking the following actions:

- Identification and cataloging all components and devices on our equipment which contain the isotope, tritium.

- Determining which devices and components are not required for training and shipping these components to a depot for final disposition. Action requires accurate identification and documentation of component's removal from the end item.

Encl (8) 344.



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training aids on site.

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correct problems. We are going the full route now, and we will do it  
quickly and safely.

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and staff concerning the hazards of tritium and that unauthorized  
procedures involving these sources will not be tolerated. WE CANNOT  
AFFORD ANOTHER INCIDENT. WE ARE UNDER A GREAT DEAL OF SCRUTINY AND  
RIGHTFULLY SO. WE HAVE PERSONNEL WHO WILL NOT FOLLOW INSTRUCTIONS OR  
HEED WARNINGS.

Would appreciate your support to safeguard our personnel, and to  
expedite actions to remove radiation hazards from our training areas.

COL Allen

Forward Header  
Subject: UPD: TRITIUM DEVICES IN SCHOOLS  
From: F MAJEWSKI at BLDG\_3072  
Date: 12/8/97 11:28 AM

Sir,

TRADOC's response to date to our incident.

FRANK

Forward Header  
Subject: UPD: TRITIUM DEVICES IN SCHOOLS  
From: "Edward J. Duke" <dukee@emh10.monroe.army.mil> at bldg\_3071SMTP  
Date: 12/8/97 9:23 AM

MANAGERS....PLEASE PASS TO YOUR RPOs.

...Reference my last recommendation regarding subject....(an oversight  
part) DO NOT ALLOW SCHOOL PERSONNEL TO REMOVE THE TRITIUM AMPOULES FROM  
SCHOOLS. To begin with, they may not be qualified to do so...and secondly,  
to be sure the ampoules are properly handled and controlled. HERE'S  
IMPORTANT PART...ADVISE YOUR SCHOOLHOUSE PEOPLE THAT ACALA WILL PROVIDE  
TRAINING PIECES, WITHOUT TRITIUM, UPON THEIR REQUEST.  
For "Tritium free" devices, contact Mr. Vernon Vondra, ACALA Safety  
DSN 793-1690.

Very important that you talk with your schoolhouse people about this at  
the earliest convenience...IT'S IMPORTANT THAT WE BE PROACTIVE WITH THIS ONE.  
...and Happy Holiday.

Encl (4) 4 of 4

Author: J ALLEN at BLDG\_3071  
Date: 12/16/97 11:18 AM  
Priority: Normal

Subject: Re[3]: Elimination of Tritium Devices from USAOC&S Training  
F MAJEWSKI at BLDG\_3072  
T ZELLO at BLDG\_3072, C ALBERS at BLDG\_5016, A TOBIN at BLDG\_5043,  
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Author: DICKINSON at BLDG\_3071  
Date: 12/16/97 8:22 AM

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TD

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Author: J ALLEN at BLDG\_3071  
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Author: DICKINSON at BLDG\_3071  
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Encl(8) 244



Author: DICKINSON at BLDG\_3071

Date: 12/10/97 10:31 PM

Priority: Normal

: R CHILDRESS at BLDG\_3071, T ZELLO at BLDG\_3072, C ALBERS at BLDG\_5016,  
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Encl(8) 344

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