



DEPARTMENT OF THE ARMY
WOMACK ARMY MEDICAL CENTER
FORT BRAGG, NORTH CAROLINA 28307-5000

REPLY TO
ATTENTION OF:

9 November 1993

Health Physics Office

SUBJECT: Reply to a Notice of Violation

U.S. Nuclear Regulatory Commission
Region II
Attention: Regional Administrator
101 Marietta St. NW., Suite 2900
Atlanta, Georgia 30323

Dear Mr. Ebnetter:

This letter is a reply to the Notice of Violation dated October 12, 1993. Please find enclosed (enclosure 1) the letter informing Womack Army Medical Center of the violations. Two violations were cited during the inspection conducted on September 22, 1993.

Pursuant to the provisions of 10 CFR 2.201 and the Notice of Violation, Womack Army Medical Center is required to address within 30 days for each violation:

- (1) the reason for the violation,
- (2) the corrective steps that have been taken and the results achieved,
- (3) the corrective steps that will be taken to avoid further violations, and
- (4) the date when full compliance will be achieved.

These four points are discussed below for the two violations cited.

A. Failure to test sealed sources for leakage (see enclosure 1 for a more detailed description of the violation).

(1) There were two causes for this violation. We were conducting the leakage tests under the assumption that the tests were required semiannually, not every six months.

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PDR ADOCK 03002631
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As a result, we had some periods between tests that were longer than six months. Leakage tests were conducted on:

June 27, 1991,
March 20, 1992,
June 2, 1992,
January 5, 1993, and
August 19, 1993.

As indicated above, a leakage test was conducted on March 20, 1992 (enclosure 2), contrary to the finding that no leakage test was performed during the period of June 27, 1991 to June 16, 1992. It should also be noted that more sealed sources than those required by the NRC were tested.

(2) The last leakage test was performed on August 19, 1993 (enclosure 3), which is within the last six months.

(3) To ensure that this violation is not repeated, a checklist will be developed to prompt the performance of the leakage test at intervals not to exceed six months.

(4) The next leakage test will be performed prior to February 19, 1994.

B. Failure to conduct a proper and complete physical inventory of sealed sources (see enclosure 1 for a more detailed description of the violation).

(1) An inventory was conducted on May 8, 1993 (enclosure 4); however, a 250 μ Ci Cs-137 calibration source was not included on the list. For a reason unknown, this source was lost from our electronic database file. Our quarterly sealed sources inventories routinely include all sealed sources, not just those required by the NRC.

(2) The last sealed source inventory was conducted on August 19, 1993 (enclosure 5), which is within the previous quarter. The cesium source has since been added back to the database.

(3) To prevent a recurrence of this violation, the working database list will be compared against a backup copy during the inventory process.

(4) The next sealed source inventory will be conducted prior to December 31, 1993 (end of fourth quarter).

Please contact CPT Scott Dudevoir, Chief, Health Physics Office at (919) 432-3309/5667 or LTC Sue Abreu, Radiation Safety Officer at (919) 432-9887/9913 to advise as to requirements for further information or with any questions. Please note that the area code changes to 910 as of November 14, 1993.

Sincerely,



Harold L. Timboe
Colonel, U.S. Army
Commanding

Enclosures

Copy Furnished:

NRC, Document Control Desk, Washington DC



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

OCT 12 1993

Docket No. 030-02631
License No. 32-04054-04

Womack Army Medical Center
ATTN: HSXC-PM-RPO
COL Harold L. Timboe
Commander
Normandy Drive
Fort Bragg, NC 28307-5000

Gentlemen:

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT NO. 32-04054-04/93-01)

This refers to the inspection conducted by J. Henson of this office on September 22, 1993. The inspection included a review of activities authorized for your Fort Bragg, North Carolina facility. At the conclusion of the inspection, the findings were discussed with LTC C. Glazer, Chief, Clinical Services Division.

The inspection was an examination of activities conducted under your license with respect to radiation safety and compliance with NRC regulations and the conditions of your license. It included selective examinations of procedures and representative records, interviews with personnel, and direct observations by the inspector.

Based on the results of this inspection, certain of your activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice of Violation (Notice). In addition, the inspector identified activities that violated NRC requirements that will not be subject to enforcement action because the licensee's efforts in identifying and/or correcting the violations meet the criteria specified in Section VII.B of the Enforcement Policy. The non-cited violations included the failure to test the dose calibrator linearity down to 10 microcuries, to include all the required information in records of contamination surveys and decay-in-storage waste disposals, and to post some documents as required by 10 CFR 21.6. These items were discussed with LTC Glazer during the meeting at the conclusion of the inspection.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

9310260112² PB.

Encl 1

OCT 12 1993

Womack Army Medical Center

2

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and any reply will be placed in the NRC Public Document Room.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Should you have any questions concerning this letter, please contact us.

Sincerely,



Douglas M. Collins, Chief
Nuclear Materials Safety and
Safeguards Branch
Division of Radiation Safety
and Safeguards

Enclosure:
Notice of Violation

cc w/encl:
State of North Carolina

ENCLOSURE

NOTICE OF VIOLATION

Womack Army Medical Center
Fort Bragg, North Carolina

Docket No. 030-02631
License No. 32-04054-04

During an NRC inspection conducted September 22, 1993, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. 10 CFR 35.59(b)(2) requires, in part, that a licensee in possession of a sealed source test the source for leakage at intervals not to exceed six months or at other intervals approved by the Commission or an Agreement State.

Contrary to the above, the licensee did not test its two sealed sources containing a nominal activity of 250 microcuries of cesium-137 and 250 microcuries of barium-133 for leakage between June 27, 1991, and June 16, 1992, June 16, 1992 and January 5, 1993, and January 5 and August 19, 1993, intervals in excess of six months, and no other interval was approved by the Commission or an Agreement State.

This is a Severity Level IV violation (Supplement VI).

- B. 10 CFR 35.59(g) requires, in part, that a licensee in possession of a sealed source or brachytherapy source conduct a quarterly physical inventory of all such sources in its possession.

Contrary to the above, the licensee did not conduct a physical inventory of its two sealed sources containing a nominal activity of 250 microcuries of cesium-137 and 250 microcuries of barium-133 from March 27 to August 19, 1993, a period in excess of a calendar quarter.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Womack Army Medical Center is hereby required to submit a written statement or explanation to the Regional Administrator, Region II, with a copy to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or demand for information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Atlanta, Georgia
This 17th day of October 1993

2510260114 *P.*

Womack Army Community Hospital
Fort Bragg, North Carolina 28307-5000

Sealed Source Leak Test (385-11d(1))

03/20/92

Isotope	Inventory Number	Activity (mCi)	Department	Location	CFM	Efficiency (uCi/CFM)	uCi
51	BA-133	BA-88050-01-01	NUC MED	NUC MED	-24	4.7E-7	<0.005
52	CO-57	CO-90292-01-01	NUC MED	NUC MED	-37	4.7E-7	<0.005
53	CO-57	CO-91065-01-01	NUC MED	NUC MED	-4	4.7E-7	<0.005
54	CO-57	CO-91269-01-01	NUC MED	NUC MED	-25	4.7E-7	<0.005
55	CS-137	CS-88050-01-01	NUC MED	NUC MED	-22	8.3E-7	<0.005

Survey Results Attached: Y or N

RPO Review

POS CODE	CTIME	CFM1	μCi	T	$T_{1/2}$	μCi	A	dpm
010	BGND	60	349					
	MEAN		349					
011	BA133	60	226213	0.115	1.16164y	10.5y	0.1065	236430
	EFFICIENCY:	1.045	dpm/cpm	1/25/91				
012	CO57	60	71603	0.114	420d	270.9d	0.0334	74148
	EFFICIENCY:	1.036	dpm/cpm	11/30/90				
015	CS137	60	116285	0.099	1.20542y	30.17y	0.0963	213786
	EFFICIENCY:	1.838	dpm/cpm	1/9/91				

LEAK TEST			μCi
POS CODE	CTIME	CFM1	
010	BGND	60	378
	MEAN		378
011	BA133	60	-24 <0.005
012	CO57	60	-37
013	CO57	60	-4
014	CO57	60	-25
015	CS137	60	-22 <0.005

Michael A. Pacilio
MICHAEL A. PACILIO
CPT. MS
HEALTH PHYSICS

Sealed Source, as Test (385-11c(1))

08/19/95

Isotope	Inventory Number	Activity (mCi)	Department	Location	CPM	Efficiency (CPM/CI)	CI
- 99mTc	99-88950-01-01	0.146 0.25000000	NUC MED	NUC MED	9	4.5E-7	4.05E-6
- 99mTc	00-90297-01-01	0.387 5.51000000	NUC MED	NUC MED	2	4.5E-7	1.00E-6
- 99mTc	00-91065-01-01	0.067 0.15000000	NUC MED	NUC MED	-4	4.5E-7	CD
- 99mTc	00-91269-01-01	0.09 5.53000000	NUC MED	NUC MED	13	4.5E-7	0.54E-6

Survey Results Attached: or

SPD Review

CS 88050-1-1

0.250

NUC MED

-31

CD

Scott G. Dudevoin
 SCOTT G. DUDEVOIN
 CPT, MS
 Clinical Physics

John H. Abner MS
 RSC

Efficiency
MODE 1

RDS CODE CTIME CPM

Q10 BGRD 60
MEAN

EFF

					μCi	$\frac{\mu\text{Ci}}{\text{PRESENT}}$	$\frac{\mu\text{Ci}}{+}$	dpm	dpm/cpm	$\frac{\mu\text{Ci}}{\text{cpm}}$
7.2y	011	BA133	60	205180	0.115 μCi	1/25/91	.0904	2.54	200666	9.78E-1 4.5E-7
27.1	012	CS57	60	19227	0.114 μCi	11/30/90	9.69E-3	960d	21509	1.12 4.5E-7
30y	013	CS137	60	112633	0.099 μCi	1/4/91	.093	2.58y	206437	1.83 4.5E-7

*END OF ASSAY

DATE
TIME
BY
Scott M. Brown

Joe H. Brown
RSO

LEAKTEST
MODE 1

POS	CODE	QTIME	CPT
010	BGND MEAN	90	345 345
011	B4133	90	345
012	CS57	90	345
013	CS57	90	345
014	CS57	90	345
015	CS133	90	345

END OF ASSAY

Scott G. Duzigan

SCOTT G. DUZIGAN
CPT, MS
Chief, Health Physics

Joe H. Abruzzo
RSD

Womack Army Community Hospital
 Fort Bragg, North Carolina 28717-5011

Sealed Source Inventory (785-11e) (1)

05/08/93

Isotope	Inventory Number	Activity (mCi)	Department	Location	Remarks
I-129	I-88148-01-03	0.0000000	HEALTH PHY	H-3	
Mn-54	Mn-91095-01-01	0.0000000	HEALTH PHY	HPS	MCA CALIBRATION SOURCE
Mn-54	Mn-91095-01-01	0.29017 μ Ci	HEALTH PHY	HPS	MCA CALIBRATION SOURCE
Ra-226	Ra-91214-01-01	0.0100000	HEALTH PHY	HPS	INTERNAL STD FOR LSC
Ra-226	Ra-88050-01-01	0.2500000	NUC MED	NUC MED	CALIBRATION SOURCE FOR SC
Co-57	Co-89220-01-01	5.0000000	NUC MED	CONNEX	
Co-57	Co-90108-02-06	0.2500000	NUC MED	NUC MED	
Co-57	Co-90108-03-06	0.0500000	NUC MED	NUC MED	
Co-57	Co-90108-05-06	0.5000000	NUC MED	NUC MED	
Co-57	Co-90108-06-06	0.1500000	NUC MED	NUC MED	
Co-57	Co-90291-01-01	5.5100000	NUC MED	NUC MED	Dose calibrator
Co-57	Co-91245-01-01	0.1500000	NUC MED	NUC MED	FLEXIBLE MARKER
Co-57	Co-91245-01-01	5.5800000	NUC MED	NUC MED	
Co-60	Co-88148-17-29	0.0490000	NUC MED	CONNEX	
Co-137	Co-89158-04-06	0.0000000	NUC MED	NUC MED	EE26, 0124
Co-137	Co-89158-06-06	0.0000000	NUC MED	NUC MED	EE21
Co-137	Co-88048-01-09	0.0000000	NUC MED	CONNEX	
Co-137	Co-88048-01-29	0.0000000	NUC MED	NUC MED	*
Co-57	Co-92126-01-08	0.0000000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-02-08	0.0000000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-03-08	0.0500000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-04-08	0.0500000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-05-08	0.0500000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-06-08	0.0500000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-07-08	0.0500000	NUC MED	NUC MED	SPOT MARKER
Co-57	Co-92126-08-08	0.0500000	NUC MED	NUC MED	SPOT MARKER
Eu-152	Eu-88048-01-03	0.0010000	NUC MED	CONNEX	
Eu-152	Eu-88048-02-03	0.0010000	NUC MED	CONNEX	
Eu-152	Eu-88048-03-03	0.0010000	NUC MED	CONNEX	
Gd-153	Gd-88048-01-01	100.0000000	NUC MED	CONNEX	

Co-57	Co-88048-01-29	0.0076000
Ba-133	Ba-88048-01-29	0.0076000
Co-137	Co-88048-01-29	0.0010000
Co-57	Co-88048-01-29	0.0000500
Co-57	Co-88048-01-29	0.0000500

Totals

- ✓ I-129 0.30 μ Ci
- ✓ H-3 < 1.32 μ Ci
- ✓ Ba-133 < 0.258 μ Ci
- ✓ Co-109 0.015 μ Ci
- nd Co-57 < 16.853 mCi *accelerator produced*
- * Co-60 0.049111 mCi *calibrator*
- ✓ I-129 0.0881 mCi
- ✓ Mn-54 0.169 μ Ci
- nd Ra-226 6.107 μ Ci *accelerator produced*
- nd Ra-226 10.0 μ Ci *accelerator produced*
- * Eu-152 < 3.0 μ Ci
- * Gd-153 < 100.00 mCi [calculated]
- Co-137 0.449599 + * 0.4497099 mCi

Scott G. Dubovoir
 SCOTT G. DUBVOIR
 CPT, MS
 Chief, Health Physics

Joe H. Atkinson
 RSC

Womack Army Community Hospital
Fort Bragg, North Carolina 28307-5000

Sealed Source Inventory (385-1)(e)(3)

08/19/93

Isotope	Inventory Number	Activity mCi	Department	Location	Remarks
I-129	✓ I-88048-01-00	0.00100000	HEALTH PHY	HPS	
Mn-54	✓ Mn-91095-01-01	0.00016900	HEALTH PHY	HPS	
Na-22	✓ Na-91095-01-01	0.00010900	HEALTH PHY	HPS	MCA CALIBRATION SOURCE
Ra-226	✓ Ra-90264-01-01	0.01000000	HEALTH PHY	HPS	MCA CALIBRATION SOURCE
Ea-133	✓ Ea-88050-01-01	0.25000000	NUC MED	NUC MED	INTERNAL STD FOR LSC
Co-57	✓ Co-89220-01-01	5.00000000	NUC MED	CONNEX	CALIBRATION SOURCE FOR DO
Co-57	Co-90108-02-06	0.05000000	NUC MED	NUC MED	
Co-57	✓ Co-90108-03-06	0.05000000	NUC MED	NUC MED	
Co-57	Co-90108-05-06	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-90108-06-06	0.05000000	NUC MED	NUC MED	
Co-57	✓ Co-90292-01-01	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-91065-01-01	0.15000000	NUC MED	NUC MED	Dose calibrator
Co-57	✓ Co-91269-01-01	5.58000000	NUC MED	NUC MED	FLEXIBLE MARKER
Co-60	✓ Co-88048-13-29	0.04900000	NUC MED	CONNEX	Dose Cal
Cs-137	✓ Cs-89158-04-06	0.00100000	NUC MED HPS	NUC MED HPS	ES20, C1240
Cs-137	✓ Cs-89158-06-06	0.00100000	NUC MED HPS	NUC MED HPS	ES20, C1413
Cs-137	✓ Cs-88048-03-09	0.21200000	NUC MED	CONNEX	
Cs-137	✓ Cs-88048-04-09	0.00000000	NUC MED	NUC MED	Rod
Co-57	✓ Co-92126-01-08	0.00500000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-02-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-03-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-04-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-05-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-06-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-07-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Co-57	✓ Co-92126-08-08	0.05000000	NUC MED	NUC MED	SPOT MARKER
Eu-152	✓ Eu-88048-01-03	0.00100000	NUC MED	CONNEX	
Eu-152	✓ Eu-88048-02-03	0.00100000	NUC MED	CONNEX	
Eu-152	✓ Eu-88048-03-03	0.00100000	NUC MED	CONNEX	
Gd-153	✓ Gd-88048-01-01	100.00000000	NUC MED	CONNEX	

Scott G. Duvoy
SCOTT G. DUDEVOIR
CPT, MS
Chief, Health Physics

Joe H. Abner
RSO