

License No. 05-00046-13

Notice of Violation

Based on the results of the NRC inspection conducted on November 11, 1976, certain activities appear to be in noncompliance with NRC regulations as indicated below:

Contrary to 10 CFR 20.207, licensed byproduct material was not secured against unauthorized removal from the Nuclear Medicine Hot Laboratory during a period on November 11, 1976, when the area was unrestricted due to lack of licensee control.

This is an infraction.

INSPECTION & ENFORCEMENT — STATISTICAL DATA

FACILITY NAME		Denver, Colorado		INSPECTOR(S)		J. B. Baird		PRINCIPAL INSPECTOR			
LICENSEE/VENDOR		Department of the Army		REVIEWER							
A E	TRANS-ACTION TYPE	DOCKET NUMBER		(A)		REPORT NO.		DATES INQ/INVEST/INSP		REGION CONDUCTING ACTIVITY	
	1	2 9				(B)		20 FROM 25		(E)	
	ICHECK ONE:	0 3 0 0 1 2 3 3				16 19		1 1 1 1 7 6		32	
		OR LICENSE NO. (BY PRODUCT)						M M D D Y Y		4	
		2 15						26 TO 31			
								1 1 1 1 7 6			
								M M D D Y Y			
TYPE OF ACTIVITY CONDUCTED (CHECK ONE BOX ONLY)											
33-34											
F	INSPECTION										
	OTHER										
	01 ROUTINE (FEE) 05 MANAGEMENT AUDIT 09 MATL ACCT. 13 IMPORT 14 INQUIRY										
	02 ROUTINE (NO FEE) 06 MANAGEMENT VISIT 10 PLANT SEC. 15 INVESTIGATION										
	03 INCIDENT 07 SPECIAL 11 INVENT. VERIF. (IF INVEST. ALSO CHECK BLOCK O)										
	04 ENFORCEMENT 08 VENDOR 12 SHIPMENT/EXPORT										
G	INSPECTION OR INVESTIGATION: 1 ANNOUNCED 2 UNANNOUNCED										
	35										
H	INSPECTION/INVESTIGATION NOTIFICATION (CHECK ONE BOX ONLY)										
	36										
	1 591 2 REGIONAL OFFICE LETTER 3 REFERRED TO HQS FOR ACTION 4 REGION LETTER & HQS FOR ACTION										
I	INSPECTION/INVESTIGATION FINDINGS (CHECK ONE BOX ONLY)										
	37										
	1 CLEAR 2 NONCOMPLIANCE 3 DEVIATION 4 NONCOMPLIANCE & DEVIATION										
J	NUMBER OF NONCOMPLIANCE ITEMS IN LETTER TO LICENSEE: 38 39										
K	NUMBER OF DEVIATION ITEMS IN LETTER TO LICENSEE: 40 41										
L	NUMBER OF NONCOMPLIANCE ITEMS IDENTIFIED BY LICENSEE (AND NOT CITED): 42 43										
M	NUMBER OF ABNORMAL OCCURRENCES REVIEWED ONSITE THIS INSPECTION: 44 45										
N	REGIONAL OFFICE LETTER OR REPORT TRANSMITTAL DATE FOR INSPECTION OR INVESTIGATION										
	591 OR LETTER ISSUED TO LICENSEE: 46 51										
	REPORT SENT TO HQS FOR ACTION: 52 57										
	1 1 2 4 7 6										
	M M D D Y Y										
	M M D D Y Y										
O	SUBJECT OF INVESTIGATION (CHECK ONE BOX ONLY)										
	58 59										
	10 CFR 20.403 TYPE A TYPE B 10 CFR 20.405 MISC										
	01 INTERNAL OVEREXPOSURE 06 INT. OVEREXPOSURE 15 CRITICALITY 21 EQUIP. FAILURE										
	02 EXTERNAL OVEREXPOSURE 07 EXT. OVEREXPOSURE 16 LOSS/THEFT 22 ALLEGATION/COMPLAINT										
	03 RELEASE TO UNREST. AREA 08 EXCESS RAD. LEVELS 17 MUF 23 PUBLIC INTEREST										
	04 LOSS OF FACILITY 09 EXCESS CONC. LEVELS 18 TRANSPORTATION 24 SABOTAGE										
	05 PROPERTY DAMAGE 10 CONTAM/LEAKING SOURCE 25 ABNORMAL OCCUR.										
	20 ENVIRONMENTAL EVENT 26 OTHER										
P	HEADQUARTERS ENTRIES										
	80 81										
Q	HQS ACTION ON INSP/INVEST REFERRED BY REGION: (See Reference List for Code)										
R	82 87										
	DATE HQS ENFORCEMENT LETTER, NOTICE, ORDER ISSUED: M M D D Y Y										
S	CIVIL PENALTY ISSUED: 88 1										
	89 92										
	DATE 766 ENTERED INTO COMPUTER FILE (MO/YR): M M Y Y										
	NOTE: BLOCKS I TO L MUST BE VERIFIED BY IE HQS WHENEVER ENTRIES ARE MADE IN BLOCKS P, Q, AND R.										
	AITS REFERENCE										

USNRC - INSPECTION & ENFORCEMENT STATISTICAL DATA

(NOTE: % COMPLETE AND STATUS.
LEAVE BLANK FOR MC 92, 93 & 94
PROCEDURES AND 30-703B.)

(NOTE: STATUS CODING:

BLANK - TO REMAIN OPEN
C - CLOSED
L - REOPEN & LEAVE OPEN
P - REOPEN THIS TRANSACTION
ONLY

(NOTE: MODULE REQUIRING
FOLLOWUP.
USE ONLY WHEN MODULE
INSPECTED IS 92-701B.)

MODULE TRACKING INFORMATION																	NONCOMPLIANCE																											
LINE KEY	MODULE NO. INSP.					DIRECT INSP EFFORT MAN HRS EXPENDED THIS INSP	% COM- PLETE TO DATE	STATUS	MODULE REQ. FOLLOWUP					N/C		N/C		N/C		N/C		N/C		LINE REPLACEMENT CODE (R)																				
	PHASE	MANUAL	CHAP.	PROC.	NO.				LEVEL	PHASE	MANUAL	CHAP.	PROC.	NO.	LEVEL	CODE	SEV	CODE	SEV	CODE	SEV	CODE	SEV		CODE	SEV																		
B	0	5	3	0	7	0	3	8	0	1																																		
B	1	5	7	8	7	1	0	B	0	0	5	1	0	0	C																													
B	2	5	9	2	7	0	1	B	0	0	0					5	7	8	7	1	0	B																						
B	3	5	9	2	7	0	6	B	0	0	1																																	
B	4																																											
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

LINE COLUMN NUMBER SHOWN IN BOTTOM LINE.

☐ CHECK HERE IF DATA
CONTINUES ON SUBSEQUENT SHEET

INSPECTION & ENFORCEMENT—STATISTICAL DATA SUPPLEMENT

GENERAL INSTRUCTIONS BLOCK A MUST BE CHECKED TO SHOW TYPE OF INFORMATION CONTAINED ON THE FORM.
ONE FORM IS TO BE COMPLETED FOR EACH
(A) ITEM OF NONCOMPLIANCE CITED.
(B) ITEM OF NONCOMPLIANCE NOT CITED, AND
(C) DEVIATION CITED IN ENFORCEMENT CORRESPONDENCE

DOCKET NUMBER 03001233 OR LICENSE NUMBER _____ REPORT NUMBER 76-01

<div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto; line-height: 20px;">5</div> <div style="text-align: center;">1</div>	<p>A—TYPE OF FINDINGS (CHECK ONE BOX ONLY)</p> <p>A <input checked="" type="checkbox"/> NONCOMPLIANCE</p> <p>2 B <input type="checkbox"/> NONCOMPLIANCE (NOT CITED)</p> <p>C <input type="checkbox"/> DEVIATION</p>	<p>B—SPECIFIC NONCOMPLIANCE</p> <p style="text-align: center;">OR</p> <p>SPECIFIC DEVIATION</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;">3 7 [] [] [] [] [] IDENTIFICATION</div><div style="text-align: center;">8 17 [] [] [] [] [] [] [] [] SPECIFIC GUIDE OR STANDARD</div></div>
<p>C—HOW ITEM IDENTIFIED (CHECK ONE BOX ONLY)</p> <p>L <input type="checkbox"/> LICENSEE</p> <p>18 I <input checked="" type="checkbox"/> INSPECTOR</p> <p>O <input type="checkbox"/> OTHER</p>		<p>D—CONSEQUENCES (CHECK ONE BOX ONLY)</p> <p>A <input type="checkbox"/> CAUSE OR CONSTITUTED ACTUAL OCCURRENCE</p> <p>19 P <input checked="" type="checkbox"/> HAD POTENTIAL TO RESULT IN ACTUAL OCCURRENCE</p> <p>N <input type="checkbox"/> DID NOT HAVE POTENTIAL TO RESULT IN ACTUAL OCCURRENCE</p>
<p>E—EXEMPT INFORMATION</p> <p>20 S <input type="checkbox"/> CHECK BOX IF EXEMPT INFORMATION IS INCLUDED IN TEXT BELOW, PER 10 CFR 2.790</p>		<p>F—ADDITIONAL UNITS (ENTER "M" IN FIRST BOX FOLLOWED BY OTHER UNIT NUMBERS)</p> <div style="text-align: center;">21 24 [] [] [] []</div>
<p>G—TEXT (ENTER UP TO 800 CHARACTERS FOR EACH ITEM. IF THE TEXT OF THE NONCOMPLIANCE OR DEVIATION EXCEEDS THIS NUMBER, IT WILL BE NECESSARY TO PARAPHRASE)</p> <div style="border: 1px solid black; padding: 5px; min-height: 300px;"><p>Contrary to 10 CFR 20.207, licensed byproduct material was not secured against unauthorized removal from the Nuclear Medicine Hot Laboratory during a period on November 11, 1976, when the area was unrestricted due to lack of licensee control.</p></div>		
<div style="display: flex; align-items: center; justify-content: center;"><div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">E N D</div><div style="font-size: 0.8em;">NOTE: DATA ENTRY CLERK—THE LAST LINE ENTERED MUST CONTAIN THIS INFORMATION</div></div>		

INSPECTION & ENFORCEMENT -- STATISTICAL DATA

FACILITY NAME		Fitzsimons General Hospital		INSPECTOR		G. D. Brown		PRINCIPAL INSPECTOR	
LICENSEE/VENDOR		Department of the Army		05-00046-13		REVIEWER			
A	TRANS ACTION TYPE 3 CHECK ONE <input type="checkbox"/> General <input checked="" type="checkbox"/> Repeat <input type="checkbox"/> Modify	DOCKET NUMBER (A)		REPORT NO		DATES INC/INVEST/INSP		REGION CONDUCTING ACTIVITY	
		2 9 0 3 0 0 1 2 3 3		(B) 16 19 7 6 0 2		(C) 20 25 1 2 1 0 7 6 M M D D Y Y		(E) 32 4	
		OR LICENSE NO. (BY PRODUCT) 2 15 				(D) 26 31 1 2 1 0 7 6 M M D D Y Y			
TYPE OF ACTIVITY CONDUCTED (CHECK ONE BOX ONLY)									
33 34									
F	INSPECTION								
	01 <input type="checkbox"/> ROUTINE (FEE) 05 <input type="checkbox"/> MANAGEMENT AUDIT 09 <input type="checkbox"/> MATL ACCT 13 <input type="checkbox"/> IMPORT								
	02 <input type="checkbox"/> ROUTINE (NO FEE) 06 <input type="checkbox"/> MANAGEMENT VISIT 10 <input type="checkbox"/> PLANT SEC								
G	03 <input type="checkbox"/> INCIDENT 07 <input type="checkbox"/> SPECIAL 11 <input type="checkbox"/> INVENT. VERIF								
	04 <input type="checkbox"/> ENFORCEMENT 08 <input type="checkbox"/> VENDOR 12 <input type="checkbox"/> SHIPMENT/EXPORT								
	OTHER 14 <input type="checkbox"/> INQUIRY 15 <input checked="" type="checkbox"/> INVESTIGATION (IF INVEST. ALSO CHECK BLOCK D)								
INSPECTION OR INVESTIGATION 1 <input type="checkbox"/> ANNOUNCED 2 <input checked="" type="checkbox"/> UNANNOUNCED									
35									
INSPECTION/INVESTIGATION NOTIFICATION (CHECK ONE BOX ONLY)									
36									
1 <input type="checkbox"/> 591 2 <input type="checkbox"/> REGIONAL OFFICE LETTER 3 <input checked="" type="checkbox"/> REFERRED TO HQS FOR ACTION 4 <input type="checkbox"/> REGION LETTER & HQS FOR ACTION									
INSPECTION/INVESTIGATION FINDINGS (CHECK ONE BOX ONLY)									
37									
1 <input checked="" type="checkbox"/> CLEAR 2 <input type="checkbox"/> NONCOMPLIANCE 3 <input type="checkbox"/> DEVIATION 4 <input type="checkbox"/> NONCOMPLIANCE & DEVIATION									
J	NUMBER OF NONCOMPLIANCE ITEMS IN LETTER TO LICENSEE:			38 39 0 0		NOTE: CHANGE MUST BE SUBMITTED ON 766 WHENEVER PREVIOUSLY CITED ITEM OF NONCOMPLIANCE IS OFFICIALLY DELETED FROM THE RECORD			
K	NUMBER OF DEVIATION ITEMS IN LETTER TO LICENSEE:			40 41 0 0					
L	NUMBER OF NONCOMPLIANCE ITEMS IDENTIFIED BY LICENSEE (AND NOT CITED)			42 43 0 0					
M	NUMBER OF ABNORMAL OCCURRENCES REVIEWED ONSITE THIS INSPECTION			44 45 0 0					
REGIONAL OFFICE LETTER OR REPORT TRANSMITTAL DATE FOR INSPECTION OR INVESTIGATION									
N	591 OR LETTER ISSUED TO LICENSEE				REPORT SENT TO HQS FOR ACTION				
	46 51 				52 57 1 2 1 6 7 6 M M D D Y Y				
SUBJECT OF INVESTIGATION (CHECK ONE BOX ONLY)									
O	TYPE A 10 CFR 20.403		TYPE B 10 CFR 20.405		MISC				
	01 <input type="checkbox"/> INTERNAL OVEREXPOSURE 06 <input type="checkbox"/>		11 <input type="checkbox"/> INT. OVEREXPOSURE 15 <input type="checkbox"/> CRITICALITY 21 <input type="checkbox"/> EQUIP. FAILURE		22 <input checked="" type="checkbox"/> ALLEGATION COMPLAINT				
	02 <input type="checkbox"/> EXTERNAL OVEREXPOSURE 07 <input type="checkbox"/>		12 <input type="checkbox"/> EXT. OVEREXPOSURE 16 <input type="checkbox"/> LOSS/THEFT 23 <input type="checkbox"/> PUBLIC INTEREST		24 <input type="checkbox"/> SABOTAGE				
	03 <input type="checkbox"/> RELEASE TO UNREST. AREA 08 <input type="checkbox"/>		13 <input type="checkbox"/> EXCESS RAD. LEVELS 17 <input type="checkbox"/> MUF 25 <input type="checkbox"/> ABNORMAL OCCUR		26 <input type="checkbox"/> OTHER				
	04 <input type="checkbox"/> LOSS OF FACILITY 09 <input type="checkbox"/>		14 <input type="checkbox"/> EXCESS CONC. LEVELS 18 <input type="checkbox"/> TRANSPORTATION						
05 <input type="checkbox"/> PROPERTY DAMAGE 10 <input type="checkbox"/>									
HEADQUARTERS ENTRIES									
P	HQ ACTION ON INSP INVEST REFERRED BY REGION (See Reference List for Code)			60 61 		NOTE: BLOCKS I TO L MUST BE VERIFIED BY IE HQS WHENEVER ENTRIES ARE MADE IN BLOCKS P, Q AND R			
Q	DATE HQS ENFORCEMENT LETTER, NOTICE, ORDER ISSUED			62 67 					
R	CIVIL PENALTY ISSUED 1 <input type="checkbox"/>			68 72 					
S	DATE 766 ENTERED INTO COMPUTER FILE (MO YR)			69 72 					
					70 72 				

USNRC - INSPECTION & ENFORCEMENT STATISTICAL DATA

(NOTE: % COMPLETE AND STATUS.
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PROCEDURES AND 30-703B)

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MODULE TRACKING INFORMATION																	NONCOMPLIANCE																							
LINE KEY	MODULE NO. INSP.						DIRECT INSP EFFORT MAN HRS EXPEND ED THIS INSP.	% COM- PLETE TO DATE	STATUS	MODULE REQ. FOLLOWUP						N/C		N/C		N/C		N/C		N/C		REMARKS														
	PHASE	MANUAL	CHAP.	PROC.	NO.	LEVEL				PHASE	MANUAL	CHAP.	PROC.	NO.	LEVEL	CODE	SEV	CODE	SEV	CODE	SEV	CODE	SEV	CODE	SEV															
B 0	5	3	0	7	0	3	B																																	
B 1	5	9	2	7	0	4	B																																	
B 2	5	7	8	7	1	0	B	0	0	4	1	0	0	C																										
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B 8																																								
B 9																																								

LINE COLUMN NUMBER SHOWN IN BOTTOM LINE.

☐ CHECK HERE IF DATA
CONTINUES ON SUBSEQUENT SHEET

INSPECTION REPORT

1. Name and address of licensee
*Department of the Army
Fitzsimons Army Medical Center
Denver, Colorado 80240*
2. Date of Inspection *Nov 11, 1976*
3. Type of Inspection *Routine, R*
unannounced
4. License number(s), docket number(s), number and date of last amendment for each license. Category and Priority of each licensee.
License No. 05-00046-13, Aug 25, 1975 Amend 36, G(1)-II
5. Date of previous inspection *June 19+20, 1974*
6. Proprietary information
None
7. Scope of inspection if other than routine
Routine
8. Participants (Licensee representatives and titles, State representatives, etc.)
*Paul E. Sieben, M.D., Col, Chairman R.C., Chief, Department of Radiology
Nasser V. Ghared, M.D., LTC, Chief, Nuclear Medicine Service & RSO
Miss Anne Dolbow (Civ) Chief Technologist*
9. Management Interview (Information required for N/C cases)
*Conducted with Maj. Gen. Kenneth R. Dinks and Dr. Sieben.
The apparent item of noncompliance was discussed and
the inspector explained the IE enforcement policy.*
10. Action and Date: Letter to Licensee *Nov 24, 1976*

AEC-591 Clear _____

AEC-591 N/C _____
11. Recommend reinspection date _____
12. *J. B. Baird* *Nov. 29, 1976*
Inspector Date of Report

J. B. Baird *12/27/76*
Reviewer Date of Review

13. Inspection Summary (Including violations and safety items, and status of previously reported violations and safety items, etc.)

Previous inspection: June 19 + 20, 1974, H.J. Papp, Clear Form 591 issued

Current inspection: One apparent item of noncompliance, 10 CFR 20.207 - Byproduct material not secured against unauthorized removal from Hot Lab.

14. Summary of Licensed Program (Kind of program, number of people, rate of use or quantities on hand, places and frequency of use, type, quantity and use as authorized, etc.)

Routine Nuclear Medicine program and small research program. Attached sheets show locations of use of radioactive materials and typical nuclear medicine procedures. All appear to be as authorized. Radioisotope Committee (see attached) approve all use.

15. Organization and Administration (Management organization, RSO, authorities and responsibilities, authorized users, qualifications, supervision, etc.)

Commanding Officer - Maj Gen K. R. Dicks, M.D.

Deputy - Col R.W. Blahm

Dept of Radiology - Col P.E. Sieben, M.D. Clinical Research

Nuclear Medicine Service - LTC N.Y. Ghad, M.D. Chief, D.G. Gorbey

Chief Technologist - Miss Anne Dolbow (civilian)

3 military + 3 civilian technologists

16. Facilities (Use facilities, storage facilities, control of access, control devices and alarms, etc.)

Facilities are as previously described in license application and inspection reports. The inspector observed that the Hot Lab in Bldg 511 was left unattended during the lunch hour. This was cited as apparent infraction - 10 CFR 20.207.

17. Equipment (Devices utilizing licensed material, monitoring instrumentation, special equipment as glove boxes, hoods, handling tools, respirators, etc.)

Equipment and instrumentation essentially same as previously reported.

18. Radiological Safety Procedures (Written operating and emergency procedures, availability of procedures, license and regulations, training, Form AEC-3, etc.)

Use of radionuclides under Medical Center Regulation 40-604, 9/16/79. Part 19 posting of documents in Hot Lab. 10CFR19.12 instructions to personnel (females also) by RSO + Chief Technologist.

19. Personnel Monitoring and Exposure to External Radiation (Type of monitoring, range of exposures, supplier, period worn, exposure history, etc.)

Film badges from Army on monthly exchange.

Records maintained on DD Form 1952 (equivalent of AEC-4) and DD Form 1141 (equivalent of AEC-5). Wrist badges provided for Nuclear Medicine Tech. Review of records show all within 10CFR 20.101 limits.

20. Exposure of Employees to Airborne Radioactive Materials (Method of evaluation, type of samples, radioisotopes, records, bioassay, etc.)

Potential for airborne exposures is low. Hoods provided for volatile material. ¹³³Xe trap for Xe lung studies.

21. Effluents to Unrestricted Areas (Types, source, measurements, flow rates, applicable MPC, analytical procedures, environmental samples, etc.)

None. ¹³³Xe trap used. Blount Nuclear Medicine Model XE101.

22. Disposals (Methods, typical quantities, etc.)

Waste to ordinary trash hold for decay and surveyed and logged. Other solids drummed and shipped to disposal site. Some liquids to sink in accordance with schedule. Records maintained in log books and reported to Rad Committee.

Attachment to Section 1010

23. Miscellaneous Surveys, Evaluations and Records (External radiation levels, contamination levels, leak tests, etc.)

Packages surveyed on receipt and record maintained.
Laboratory surveyed weekly and record maintained.

24. Special License Conditions

Procedures available for hospitalizing, handling and surveys for patients with $> 30 \text{ mCi } ^{131}\text{I}$.

25. Posting and Labelling

All posting and labelling observed was in accordance with 10 CFR 20.203. requirements.

26. Independent Measurements (Type, results, comparison to licensee results, etc.)

General hot lab area surveyed with Auto Digimeter GM. Range 0.1 - 1.5 mR/hr near $^{99}\text{Mo} - ^{99\text{m}}\text{Tc}$ area.

27. Operations Observed

Routine nuclear medicine operation.

Research area not ~~active~~ active during tour.

28. Incidents, Overexposures, Theft or Loss, Equipment Malfunction (Those not described elsewhere should be reported here.)

None reported or otherwise noted

29. Other Information or Continuation from Previous Paragraphs

Rad Committee meets quarterly and minutes kept by Department of Radiology. Inventory of materials included in each report. Also disposals and radionuclides administered listed. RSD audits operation monthly.

Attachment to Section 1010

28-X

1 Oct 76
~~1 June 1976~~
~~1 November 1975~~

The following named individuals are currently approved by the FAMC/
Radioisotope Committee as principal users:

Branch, Leslie B. LTC, MC	In Vitro	I-125 - 40 uCi I G I-125 - 60 uCi R A S T
Bethlenfalvay, NC COL, MC	In Vitro	C-14 - 200 uCi Leucine H-3 - 200 uCi Leucine
Brown, George L. LTC, MSC	In Vitro	Hydrogen-3 Tritiated Thymidine and Uridine each at 5 mCi
Ghaed, Nasser V. LTC, MC	Human	See Incl. for Nuc Med Procedures and IND's
Glenn, Guy C. COL, MC	In Vitro	See Incl.
Hesselgesser, Robert D. MAJ, MC	Human	AECL Source No. 1462, Theratron 80 7098 Ci (Jun 75)
O'Barr, Thomas P. DAC	In Vitro	See Incl.
Sieber, Paul E. COL, MC	Human	Cobalt-60 Teletherapy sour AECL Source No. 1462, Theratron 80 7098 Ci (Jun 75)
Nelson, H. S. COL, MC	In Vitro	I-125 - 3.5mCi

Fitzsimons Army Medical Center Radioisotope Committee
Human Use Certification

Under the provision of paragraph 1d(2), AR 40-37, _____
is authorized to conduct the following procedures using the following isotopes at
Fitzsimons Army Medical Center. The individual dosage may vary slightly from that
indicated. Procedures lined out and initialed by the Chief, Nuclear Medicine Service
are not included in the authorization.

ISOTOPE	DOSE	FORM	PROCEDURES
I-131	10 uCi	NaI	Thyroid Uptake
I-131	100 uCi	NaI	Thyroid Scan
I-131	15 mCi	NaI	Treatment of Hyperthyroidism
I-131	100 uCi	NaI	Conversion Ratio & PBI 131
I-131	15 mCi	NaI	Treatment of Graves Disease
I-131	100-150 mCi	NaI	Treatment of Thyroid Malignancy
I-131	1 mCi	NaI	Chest Scan
I-131	300 uCi	Macroaggregated Albumin	Lung Scan
I-131	0.5 uCi*	Hippuran	Renogram
I-131	1.5 uCi*	Rose Bengal	Liver Function
I-131	5 uCi	Albumin	Placental Localization
I-131	5 uCi	Albumin	Blood Volume
In-111	500 uCi	DTPA Chelate	Cisternography & Ventriculography
I-131	2 mCi	NaI	Diagnosis of thyroid carcinoma
I-125	0.5 uCi	NaI	T-3 In-Vitro
I-125	0.1 uCi	NaI	T-4 In-Vitro
Tc99m	15 mCi	Pertechnetate	Brain Scan
Tc99m	300 uCi	Pertechnetate	Placental Scan
Tc99m	5 mCi	Sulfur Colloid	Liver Scan
Tc99m	3 mCi	Pertechnetate	Joint Scan
Au-198	150 uCi	Colloidal	Liver Scan
Cr-51	50 uCi	Sodium Chromate	Blood Volume
Cr-51	150 uCi	Sodium Chromate	Red Blood Cell & Platelet Surv
Cr-51	200 uCi	Sodium Chromate	Spleen Scan
Cr-51	50 uCi	Sodium Chromate & Chromic Chloride	Determination of GI Bleeding
Co-57	0.5 uCi	Vitamin B-12	Schilling Test
Hg-197	150 uCi	Chlormerodrin	Renal Scan
Hg-197	150 uCi	Chlormerodrin	Renal Uptake
Hg-197	1 mCi	Chlormerodrin	Brain Scan
Sr-85	100 uCi	Nitrate	Bone Scan
P-32	25 mCi	Soluble Phosphate Colloidal	Treatment of polycythemia vera
		Chromic Phosphate	Leukemia & bone metastases
Xe-133	15 mCi	Gas or Gas dissolved in saline	Pulmonary function & measurement of myocardial blood flow
H-3		Water	Total body water
Na24		Sodium Chloride	Total exchangeable sodium
Tc99m	15 mCi	DTPA	Renal Scan
Tc99m	15 mCi	Phosphate	Bone Scan
I-125	0.1 uCi	NaI	ETR In-Vitro

4 Copies

1 to Individual

1 to 201 file

1 to Mins. of Radioisotope Committee

1 to Files of Radioisotope Committee

*per kg. of body weight

Chairman,
Radioisotope Committee

HS -X

Location of Use of Radioactive Material FAMC

C, Fire Department

RPO

9 Nov 76

Dr. Hasselgesser/dc/8801/30

1. The following list of locations where radioactive material is used at FAMC is provided to update information in your files:

- a. Bldg. 500: Clinical Pathology, north laboratory - room 2109 2nd floor
Dr. Glenn, Ms. Bunker - 8993
- b. Bldg. 500: Radiation Therapy, basement north
Dr. Hasselgesser - 8801
- c. Bldg. 511: Nuclear Medicine Service
Dr. Ghad - 8646
- d. Bldg. 600: Clinical Investigation Service, east - ground floor
Dr. O'Barr - 3098
- e. Bldg. 601: Clinical Investigation Service, west - ground floor
LTC Brown - 8951
- f. Bldg 600: Pediatric Allergy, east end - second floor
Dr. Branch and Dr. Nelson - 3098
- g. Bldg. 603 - Radioactive Waste Disposal Laboratory, east end ground floor
Responsible Officer: CPT Yancy - 3098

2. Should a fire develop in any of these areas, the provisions of MCR 40-604 apply and the undersigned should be notified immediately.

ROBERT D. HESSELGESSER, M. D.
MAJOR, MC - 8801 - 781-2639
Asst. Radiation Protection Officer

NASSER GHAD, M. D.
LTC, MC - 8646 - 341-8973
Radiation Protection Officer

ROBERT E. YANCY, III
CPT, MSC - 3098 - 341-1662
Alternate