



**CITY OF FAITH**  
Medical and Research Center  
Oral Roberts Ministries

MAR 15 1984

March 12, 1984

35-18282-01

U.S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76012

Dear Sirs:

This is a diagnostic misadministration report.

A bone scan was to be performed under the license 35-18282 on the morning of February 27, 1984 on a patient referred by Nadim Nimeh, M.D. at the City of Faith Medical and Research Center.

The technologist giving the injection inadvertently injected a liver dose of 4mCi of Tc-99m labeled Sulfur Colloid intended for another study. Upon realizing the mistake, the technologist notified the patient's physician, the supervisor of the Nuclear Medicine Laboratory and the Radiation Safety officer. The patient was also informed of the misadministration and suffered no ill effects from it.

The technologist will check the doses with the patient name prior to injection and not rely on memory in the future.

A copy of this report is being sent to Dr. Nimeh, the referring physician, and the Radiation Safety officer.

Sincerely,

N. David Leach, Chief Technologist  
Nuclear Medicine Division/Radiologic Services

NDL:db

cc: David Anderson, M.D.  
Charles Gosnell, M.D.  
Nadim Nimeh, M.D.

RIV Official File Copy

REGION IV

TECHNICAL INSPECTION BRANCH  
DRAFT INSPECTION REPORT

Licensee: ORAL ROBERTS UNIVERSITY  
7777 South Lewis Avenue  
Tulsa, OK 74171

Report: 8201  
License: 35-18282-01  
Category/Priority: F1A III

Licensee Contact: Roger D. Hartman, PhD --RSO  
Richard A. Gilmore, PhD

Telephone No.: 918-492-6161

Inspection At: \_\_\_\_\_

Previous Inspection Dates: March 12, 1980

Findings: 2 N/C

Current Inspection Dates: March 17 & 18, 1982

Type Inspection: routine  
unannounced

Inspection Findings

- ☐ No violations, clear 591 issued  
☒ Violations, Appendix A or equivalent attached  
☐ Violations, 591 issued  
☒ Regional Office Letter  
☒ Action on Previous inspection findings, Appendix B attached

Recommendations

- ☐ Change category to: \_\_\_\_\_  
☐ Change Priority to: \_\_\_\_\_  
☒ Change next inspection Date to: March 1984  
☐ Inspectors comments/supplemental information, Appendix C

Persons Contacted

\* Richard A. Gilmore, PhD, Assoc.  
Dean for Biomedical

Jody Cooper, Lab. Tech.

\* Roger D. Hartman, PhD., RSO, Dir.  
of Research and Development  
H.M. Rhee, PhD.

Nancy Leckie, Lab. Tech. & Student

Thomas Blake, Student

\* S.A. Garrett, M.D., Dean School of Med.  
\* Exit Interview

Mike Smith, Receiving Clerk

Inspector: Jack E. Whitten, Radiation Specialist

C.A. Hooker, Rad. Specialist

Approved: [Signature]

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No: 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
Lic Cond <u>16</u>	1. <u>Organization</u>			
	a. Management S.A. Garrett, M.D.			
	b. Radiation protection Roger D. Hartman, PhD., RSO ORU currently seeking a full time radiation safety officer. Composition of radiation safety committee as required Meeting conducted quarterly.			

Lic Cond <u>16</u>	2. <u>Licensee Internal Audits</u>			
	a. Required by LC or application	{X}	{ }	{ }
	b. Frequency of audits <u>Quarterly</u> Audit dates covering inspection period <u>Audits combined with radiation safety committee,</u> <u>semi-annual training and licensing meetings</u>			
	c. Records of audits required	{ }	{X}	{ }
	d. Records of audits available	{X}	{ }	{ }
	e. Management involved in audits	{X}	{ }	{ }
	f. Management corrective actions	{X}	{ }	{ }
	g. Type of Audit {X} Announced & {X} Unannounced			

Notes/Remarks:

B. Ahlwallia, PhD., Radiation Consultant

Lic Cond <u>16</u>	3. <u>Training, Retraining and Instruction to Employees</u>			
	a. Required by LC or application	{X}	{ }	{ }
	b. Frequency of training <u>OJT at time of hire</u> <u>retraining semi-annually</u> Training dates covering inspection period <u>12/15/80 &amp; 11/10/81</u> Retraining dates covering inspection period <u>As above</u>			
	c. Records of training required	{ }	{X}	{ }
	d. Records of retraining required	{ }	{X}	{ }

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No: 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
10 CFR 19.12 Reg. G. 8.13	e. Test or examination given	{ }	{x}	{ }
	f. Test or examinations available	{ }	{ }	{x}
	g. Instruction to workers	{x}	{ }	
	h. Prenatal radiation exposure instruction to female employees	{x}	{ }	{ }

Notes/Remarks:

..

4. Radiation Protection Procedures (Violation)

Lic Cond <u>16</u>	a. Operating & emergency procedures available	{x}	{ }	{ }
	b. Personnel understand O & E procedures	{x}	{ }	{ }

Notes/Remarks:

Interviews confirm understanding of regulations.

Tour of labs did result in inspectors finding an unopened can of "Tab" and an individual pipetting P-32 by mouth. Questioning of the individuals responsible for these violation of ORU Radiation Protection Procedures revealed that the individuals did know better and had been instructed not to do them.

5. Instrumentation

a. Types of radiation survey instruments available

Instrument Mfg.	Model No.	Serial No.	Calibration Date	Range
Eberline		7584	11/13/82	0---20 mR/h
Ludlum	5	34127	11/13/82	0---2000mR/h
Johnson		22994	11/13/82	0---20mR/h

Calibration 2 point using 25.32 mg Ra-226 NBS certified needles



## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No: 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
	b. Radiation survey instruments adequate for program	{X}	{ }	
	c. Calibration procedure in accordance with license application	{X}	{ }	
Notes/Remarks:	d. Calibration vendor <u>B. Ahlwallia</u>			
	Utilizing procedures accepted by NRC as specified in Reg. Guide 10.8.			

6. Materials & Posting

(Violation

Lic Cond 6-8

## a. Materials authorized by license

COMPLETE INVENTORY.

- \*\* Licensee possesses a 15 millicurie Ni-63 sealed source which is unauthorized by material license. No serial number available. Unit housed in G.C. Hewlett-Packard model 5840.

## b. Materials on hand

Hewlett-Packard model 5840.

Byproduct Material	Chem/Phy Form	Amount	Use
--------------------	---------------	--------	-----

- c. Use and quantities in accordance with license. { } {X}

10 CFR 20.207

- d. Radioactive material secured to prevent unauthorized removal from:

- i. Restricted area {X} { }
- ii. Unrestricted area {X} { }

\*\*Licensee identified problem

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts UniversityLicense No: 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
	e. Posting and labeling			
10 CFR 20.203(e)(f)	Caution Radioactive Material	{x}	{ }	{ }
10 CFR 20.203(b)	Caution Radiation Area	{ }	{ }	{x}
10 CFR 20.203(c)	Caution High Radiation Area	{ }	{ }	{x}

## Notes/Remarks:

Inspectors noted that radioactive materials were labeled as such.

Inspectors noted that radioactive waste had been pick up and placed in a waste receiving area but was not labeled radioactive material. Discussion with RSO reveals that the waste is only picked up prior to packaging. The inspectors pointed out that the radioactive waste bags should be labeled radioactive if they were going to be left unattended for any length of time prior to putting materials in drums.

7. Facilities

Lic Cond <u>16</u>	a. Facilities as required by license	{x}	{ }
	b. Changes in facility	{ }	{x}

## Notes/Remarks:

8. Receipt and Transfer of Material

10 CFR 20.205(b)(c)	a. Procedures for picking up, receiving and	{x}	{ }	{ }
10 CFR 71.51	opening packages available			
	b. Incoming shipments monitored	{x}	{ }	{ }
10 CFR 20.401(b)	c. Records of monitoring maintained	{x}	{ }	{ }
10 CFR 30.41	d. Transfer of byproduct material	{ }	{ }	{x}
10 CFR 30.51	e. Records of receipt, transfer, storage, surveys and monitoring.	{x}	{ }	{ }

Central control through RSO office. All orders must be approved by RSO.

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
10 CFR 71.5 49 CFR 170 to 189	f. Labeling and packaging	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	g. Reports to Commission required by LC, notices or regulations	<input type="checkbox"/>	<input type="checkbox"/>	
	h. Reports submitted	<input type="checkbox"/>	<input type="checkbox"/>	

Notes/Remarks:

9. Personnel Radiation Protection-Exterior

- 10 CFR 20.101  
20.102  
20.202
- a. Personnel dosimetry available  
{x} film { } tld { } other { } not required
- b. Film or tld badge supplier  
R.S. Landauer, Jr. & Co.
- c. Exchange frequency  
{X} monthly { } quarterly { } other
- d. Dosimetry data reviewed by  
RSO --posted for review
- e. Dosimetry reports reviewed for dates  
covering 3/80 to 3/82
- f. NRC forms or equivalent available & complete
- |                  |                                 |   |
|------------------|---------------------------------|---|
| 10 CFR 20.102(b) | NRC 4                           | <input checked="" type="checkbox"/> { } |
| 10 CFR 20.401(a) | NRC 5                           | <input type="checkbox"/> { }            |
|                  | Equivalent <u>Vendor Report</u> | <input checked="" type="checkbox"/> { } |
- g. Number of personnel monitored 110
- h. Number of minors monitored 0
- i. Maximum wholebody exposure 30 mr
- j. Maximum extremity exposure 190 mr
- 10 CFR 20.104

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No: 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
10 CFR 20.1	k. Radiation surveys of unrestricted areas	{x}	{ }	
10 CFR 20.105	restricted areas	{x}	{ }	
10 CFR 20.401	l. Records of surveys of unrestricted areas	{x}	{ }	
	restricted areas	{x}	{ }	
	m. Records of surveys reviewed by management	{x}	{ }	{ }

## Notes/Remarks:

Radiation surveys and contamination surveys performed by individual investigator. Survey data complete and available.

10. Personnel Radiation Protection-Internal

10 CFR 20.103	a. Potential exist for exposure to airborne concentrations of radioactive material	{ }	{x}	{ }
10 CFR 20.203	b. Airborne radioactivity area posted	{ }	{ }	
	c. Monitoring and/or control program exist	{ }	{ }	
	d. Monitoring and/or control program adequate	{ }	{ }	
	e. Records of monitoring maintained & adequate	{ }	{ }	
	f. Records of monitoring reviewed by _____			
	g. Respiratory protection required	{ }	{ }	
	h. Respiratory portection program adequate	{ }	{ }	
	i. Bioassy program required	{x}	{ }	
	No bioassays performed since last inspection.			
	j. Bioassy program adequate	{x}	{ }	
	k. Smear and/or wipe survey program required	{x}	{ }	
	l. Smear and/or wipe survey program adequate	{x}	{ }	
	m. Smear and/or wipe survey records available	{x}	{ }	

## Notes/Remarks:

Quantities of materials utilized less than the amount required for bioassays.

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No: 35-18282-0 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
	11. <u>Leak Test</u>			
Lic Cond <u>      </u>	a. Leak test required			<input checked="" type="checkbox"/>
	b. Leak test frequency			
	{ } 6 month { } 1 yr { } 2 yr { } 3 yr { } other			
	c. Leak test supplier/Vendor <u>                    </u>			
	d. Leak test records audit			

Source Mfg.        Model        Serial No.        Quantity        Isotope        Leak test       

## Notes/Remarks:

No leak test available on unauthorized Ni-63 foil.

12. Radioactive Effluent Control and Waste Disposal

10 CFR 20.106 20.303	a. Byproduct material released to { } Atmosphere { <input checked="" type="checkbox"/> } Sewer { } N/A			
10 CFR 20.401	b. Records of releases maintained		<input checked="" type="checkbox"/>	{ }
10 CFR 20.301 20.303 20.305-306	c. Solid waste disposal		<input checked="" type="checkbox"/>	{ } { } { }
10 CFR 20.401	d. Procedures and records for waste disposal available		<input checked="" type="checkbox"/>	{ } { } { }

## Notes/Remarks:

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
13. <u>Transportation of Radioactive Material</u>				
49 CFR 173.394-395-398	a. Prepares for transport { } Type A byproduct material			
49 CFR 173.393(a)	LSA material { } Type B			
10 CFR 71.12(b)	b. Utilization of proper transport container	{ }	{ }	{X}
	c. Documentation available for each transport container	{ }	{ }	{X}
49 CFR 173.398(a)	d. Performance standards available for each type of sealed source	{ }	{ }	{X}
49 CFR 173.393	e. General shipping and packaging requirements met	{ }	{ }	{X}
177.842(d)	f. Packages marked in accordance with Title 49	{ }	{ }	{X}
49 CFR 173.24-25	g. Vehicles placarded	{ }	{ }	{X}
173.393	h. Training given to personnel on proper transportation procedures.	{ }	{ }	

## Notes/Remarks:

Radioactive waste material packaged and transported by vendor. Vendor takes title to waste a ORU.

14. Notification and Reports

10 CFR 19.13	a. Reports to individuals	{X}	{ }	
10 CFR 20.403	b. Overexposures, excessive levels & concentrations	{ }	{X}	
20.405				
10 CFR 20.407	c. Personnel exposure & monitoring reports	{X}	{ }	{ }
10 CFR 20.408	d. Termination reports	{ }	{ }	{X}
10 CFR 20.407	e. Annual summary report to NRC	{X}	{ }	{ }
	f. Notification of theft or loss of material	{ }	{ }	{X}

## Notes/Remarks:



## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No 35-18282-01 Amendment No: 4

CRITERIA	INSPECTION ITEMS	Yes	No	N/A
	15. <u>Posting of Notices</u>			
10 CFR 19.11(a)	a. Parts 10 CFR 19 & 20, License & associated documents, procedures & notice of violation posted	{x}	{ }	{ }
10 CFR 19.11(c)	b. NRC 3 posted	{x}	{ }	{ }
Notes/Remarks:				

16. Environmental Monitoring Program

- |  |     |     |     |
|--|-----|-----|-----|
| a. Environmental program required              | { } | { } | {x} |
| b. Environmental monitoring records maintained | { } | { } | { } |

Notes/Remarks:

17. Confirmatory Measurements

- a. Independent measurements made by Inspector

	Mfg.	Serial No.	mR/h
NRC Instrument	Xetex	304A 4982	
Licensee Instrument			

- b. Source of comparison

Notes/Remarks:

Lab 2C-31 radiation levels in front of hood. 1.2 mR/h

18. Other License Conditions

Lic Cond _____	{ }	{ }	{ }
Lic Cond _____	{ }	{ }	{ }
Lic Cond _____	{ }	{ }	{ }

## AREAS INSPECTED AND FINDINGS

Licensee: Oral Roberts University License No: 35-18282-01 Amendment No: 4

## CRITERIA

## INSPECTION ITEMS

19. Independent Inspection Effort

- ☐ a. Transportation
- ☐ b. Handling of RAM
- ☐ c. Storage of RAM
- ☐ d. Waste Disposal
- ☐ e. Receipt of RAM
- ☐ f. Records: (specify)
- ☒ g. Inventory of RAM
- ☐ h. Dosimetry
- ☐ i. NRC Rules and Regulations
- ☐ j. NRC Regulatory Guides
- ☐ k. Application review of program requirements
- ☒ l. Personnel Interviews
- ☐ m. Calibration procedures & protocol
- ☐ n. Leak test
- ☐ o. Posting requirements
- ☐ p. Security of materials
- ☐ q. Incident follow-up
- ☐ r. Special NRC assigned projects

Notes/Remarks:

<b>NRC FORM 785 A</b> (11-81) IE MC 0636  <b>INSPECTOR'S REPORT</b> (Continuation) Office of Inspection and Enforcement	DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)										REPORT		MODULE NUMBER							
											NO.	SEQ.	5777711015							
	03014781										8201	A	VIOLATION SEVERITY OR DEVIATION						SITE RELATED	
												B	1	2	3	4	5	6	A C	
												C							B D	
											D									

VIOLATION OR DEVIATION (Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 50 characters each.)

License Condition 6 authorizes the possession of any form of Ni-63 not to exceed a total of 8 millicuries.

Contrary to this requirement, the licensee possessed a 15 millicurie Ni-63 sealed source contained in a Hewlett-Packard Model 5840 gas chromatograph on March 17, 1982.

This is a Severity Level IV violation (Supplement VII.D.3).

DOCKET NO. (8 digits) OR LICENSE  
NO. (BY PRODUCT) (13 digits)

REPORT

MODULE NUMBER

NO

SEC

577711018

INSPECTOR'S REPORT  
(Continuation)

Office of Inspection and Enforcement

03014781

5201

A

E

C

D

VIOLATION SEVERITY OR DEVIATION

1	2	3	4	5	6

SITE  
RELATED

IA  
C

ED

VIOLATION OR DEVIATION (Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 50 characters each.)

License Condition 16 requires, in part, that licensed activities be conducted in accordance with statements, representations, and procedures contained in your application dated September 5, 1978, and letter dated November 30, 1978, with attachment entitled "Manual for the use of Radioactive Material - Oral Roberts University".

- a. Section 8, Part 4 of the Item entitled "Handling of Radioactive Material", of the Oral Roberts University (ORU) radiation safety manual prohibits eating, storing or preparation of food in a laboratory or room where work with unsealed radioactive material is conducted and the possibility of contamination could exist.

Contrary to this requirement, a food item was discovered by the NRC inspectors in a laboratory containing unsealed radioactive material on March 18, 1982.

- b. Section 8, Part 5 of the Item entitled "Handling of Radioactive Material", of the ORU radiation safety manual prohibits pipetting of radioactive material by mouth.

Contrary to this requirement, pipetting of p-32 by mouth was observed by the NRC inspectors on March 18, 1982.

This is a Severity Level V violation (Supplement VII.E).

<b>NRC FORM 780 A</b> <small>(11-81) IE MC 0535</small>  <b>INSPECTOR'S REPORT</b> <b>(Continuation)</b> <b>Office of Inspection and Enforcement</b>	<b>DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)</b>		<b>REPORT</b>		<b>MODULE NUMBER</b>							
			NO.	SEQ.	577711018							
	03014781		8201	A	VIOLATION SEVERITY OR DEVIATION							
				B	1 2 3 4 5 6							
			C									SITE RELATED
			D									
												B D

VIOLATION OR DEVIATION (Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 50 characters each.)

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Contrary to this requirement, pipetting of p-32 by mouth was observed by the NRC inspectors on March 18, 1982.

This is a Severity Level V violation (Supplement VII.E).

## APPENDIX B - LICENSEE ACTION ON PREVIOUS INSPECTION FINDINGS

Licensee: Oral Roberts UniversityLicense no: 35-18282-01

Identification and summary of action taken	Status
Report no: <u>8001</u> Type n/c: <u>def.</u> Describe: <u>10 CFR 20.203(f) labeling of container containing radioactive material</u> Action taken: Inspections by the RSO and by the individual investigator have corrected this violation. The inspectors noted that all containers were labeled in accordance with the Regulations.	<u>OPEN</u> <u>CLOSED</u>
Report no: <u>8001</u> Type n/c: <u>def.</u> Describe: <u>10 CFR 19.11(a) or (b) Posting</u> Action taken: The inspectors noted during this inspection that the regulations and other required documents were posted.	<u>OPEN</u> <u>CLOSED</u>
Report no: _____ Type n/c: _____ Describe: _____ Action taken:	<u>OPEN</u> <u>CLOSED</u>
Report no: _____ Type n/c: _____ Describe: _____ Action taken:	<u>OPEN</u> <u>CLOSED</u>
Report no: _____ Type n/c: _____ Describe: _____ Action taken:	<u>OPEN</u> <u>CLOSED</u>



INSPECTION PLAN AND REPORT NUMBER 8001Page 2 of 8

Plan approved: \_\_\_\_\_ Date: \_\_\_\_\_

Licensee: Oral Roberts UniversityLicense no: 35-18282-01

Inspection Items	Scheduled for inspection	Post-inspection status	Module no.	766 Time Info
Management meeting - Entrance and Exit Interviews [REQUIRED]	✓	✓	30703B	0
Initial Management Meeting	✓	✓	30800B	1
Program requirements, MC 2850 [REQUIRED]	✓	✓	77710B	5
Licensee Event Followup			92700B	
Followup on Inspector-identified problems		✓	92701B	0
Followup on Noncompliance and Deviations			92702B	0
IE Bulletin/Immediate Action Letter Followup			92703B	
Followup on Headquarters Requests			92704B	
Followup on Regional Requests			92705B	
Independent Inspection Effort [REQUIRED]	✓	✓	92706B	1
Inspector Dispatched to Site			93700B	
Followup on Significant Event Occurring During Inspection			93701B	

# Oral Roberts University

7777 South Lewis • Tulsa, Oklahoma 74171

17 May 82

Mr. Glen D. Brown, Chief  
Technical Program Branch  
NCR Region VI  
Suite 1000  
611 Ryan Plaza Drive  
Arlington, Texas 76011

Re: License 35-18282-01

Dear Mr. Brown:


This is in response to your letter of 21 April 82 reporting on violations listed by NRC inspectors Jack Whitten and Charles Hooker during their site visit to our campus 16-17 March 1982.

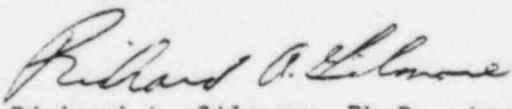
Please be advised that all responses and documentation of each case are attached in the Appendix to this letter.

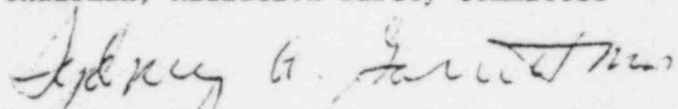
Further, please note we have taken steps to secure a full time Radiation Safety Officer. Advertisement has been published, and of this date, responses to the ad are being received.

Based upon the discussion in the Appendix, full compliance has been achieved as of 21 April 1982 -- the date of receipt of the license amendment. Thank you for your assistance in clearing this up.

Sincerely,

  
Roger D. Hartman, Ph.D., Assoc. Dean,  
Research and Grants Administration  
Acting Radiation Safety Officer

  
Richard A. Gilmore, Ph.D., Assoc. Dean,  
Biomedical Sciences  
Chairman, Radiation Safety Committee

  
Sydney A. Garrett, M.D., Dean,  
School of Medicine  
Acting Director,  
Research and Grants Administration

RDH:jcl

Appendix enclosed

~~82-7664138 PDR~~  
3PP

## APPENDIX

### RESPONSE TO NOTICE OF VIOLATION

ORAL ROBERTS UNIVERSITY

Docket: 30-14781  
License: 35-18282-01

1. Use of Ni63 exceeding license limits.

- a. Per attached letter to J.E. Whitten from Dr. R.A. Gilmore dated 19 March and subsequent telecon with Mr. Whitten on 26 March 1982, we discontinued use of the Hewlett Packard model 5840 gas chromatograph, and we agreed to apply for an amendment to increase the use of limits of Ni63.
- b. Per attached letter to W.J. Walker, Jr., from Drs. R.A. Gilmore and R.D. Hartman, we requested amendment to increase use limits sealed sources of Ni63 for gas chromatograph work.
- c. Per attached letter from J.T. Collins to Dr. R.D. Hartman, dated 06 April 1982 and subsequent annotated comments by Dr. Hartman on 14 April 1982, we submitted written evidence of following the restrictions until Ni63 increase usage license was obtained.
- d. Per attached Materials License Supplement Sheet from W.J. Walker, Jr., dated 15 April 1982, we are now authorized to use the Ni63 sealed source in the gas chromatograph.
- e. Full compliance was achieved on 15 April 1982.

2. a. Food item in isotope laboratory.

- (1) Per attached letter from Drs. R.A. Gilmore and R.D. Hartman, to J.E. Whitten dated 22 March 1982, and the attached memo to Dr. Gilmore from Dr. C.N. Corder, dated 24 March 1982, individual responsible for violation met with supervisor and together reviewed Guidelines for Radioisotope Usage and Handling (copy attached) on 17 March 1982. This individual has been retrained and issued a warning which is placed in her permanent file.
- (2) To minimize the possibility of this violation happening again, both the Chairman of the Radiation Safety Committee and the Acting Radiation Safety Officer are making regular and random unannounced inspections of this laboratory.
- (3) The specific violation has been dealt with, and retraining was completed on 17 March 1982. This individual will be monitored very carefully during the next year. Full compliance was achieved 17 March 1982.

ORAL ROBERTS UNIVERSITY

2. b. Pipetting of radioactive material by mouth.

- (1) Per attached letter from Drs. R. A. Gilmore and R. D. Hartman, to J. E. Whitten dated 22 March 1982, and the attached memo to Dr. Gilmore from Dr. C. N. Corder dated 24 March 1982, individual responsible for violation met with supervisor and together reviewed Guidelines for Radioisotope Usage and Handling (copy attached) on 17 March 1982. This individual has been retrained and issued a warning which is placed in his permanent file.
- (2) To minimize the possibility of this violation happening again, both the Chairman of the Radiation Safety Committee and the Acting Radiation Safety Officer are making regular and random unannounced inspections of this laboratory.
- (3) The specific violation has been dealt with, and retraining was completed on 17 March 1982. This individual will be monitored very carefully during the next year. Full compliance was achieved 17 March 1982.

Respectfully submitted,

Frank  
Dated

May 17, 1982  
Dated

5-17-82  
Dated

Roger D. Hartman  
Roger D. Hartman, Ph.D., Assoc. Dean,  
Research and Grants Administration  
Acting Radiation Safety Officer

Richard A. Gilmore  
Richard A. Gilmore, Ph.D., Assoc. Dean,  
Biomedical Sciences  
Chairman, Radiation Safety Committee

Sydney A. Garrett  
Sydney A. Garrett, M.D., Dean,  
School of Medicine  
Acting Director,  
Research and Grants Administration

Milton C. Olsen 5-17-82  
Notary Public Date

My commission expires \_\_\_\_\_

RDH:jcl

APR 21 1982

License: 35-18282-01

Oral Roberts University  
ATTN: S. A. Garrett, M. D., Director  
Research and Grants Administration  
7777 South Lewis  
Tulsa, OK 74171

Gentlemen:

This refers to the routine safety inspection conducted by Messrs. J. E. Whitten and C. A. Hooker of this office on March 17-18, 1982, of the activities authorized by the NRC Byproduct Material License 35-18282-01 and to the discussion of our findings held by the inspector with members of your staff at the conclusion of the inspection.

The inspection was an examination of the activities conducted under the license as they relate to radiation safety and to compliance with the Commission's rules and regulations, and the conditions of the license. The inspection consisted of selective examinations of procedures and representative records, interviews of personnel, independent measurements, and observations by the inspector.

During this inspection certain of your activities were found not to be conducted in full compliance with NRC requirements. Item 1 of the Notice of Violation, issued under the guidelines of NRC Enforcement Policy (10 CFR Part 2, Appendix C), 47 FR-9987, is normally a Severity Level III violation under Supplement VI.C.2. However, since the unauthorized material does not endanger the health and safety of the general public, and you have agreed to request the necessary amendment to bring yourself within compliance, the violation severity level has been reduced to a Level IV violation. Consequently, you are required to respond to this matter, in writing, in accordance with the provisions of Section 2.201 of the NRC "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Your response should be based on the specifics contained in the Notice of Violation attached to this letter.

~~8205180326 PDR~~  
2PP

MRPS *SW*  
JWhitten/de  
4/6/82

MRPS *SW*  
JEverett  
4/13/82

*gm*  
TPB  
GBrown  
4/13/82

*SW*  
IES  
EJohnson  
4/20/82

*SW*  
RA  
JCollins  
4/20/82

*JW*  
FLACK  
4/6

*SW*  
4/14/82

Oral Roberts University

-2-

Should you have any questions concerning this letter, we will be pleased to discuss them with you.

Sincerely,

Glen D. Brown, Chief  
Technical Program Branch

Enclosure:  
Appendix - Notice of Violation

bcc: c/o DMB  
AEOD  
IE Files  
IE/RSB  
NMSS  
NRC PDR

bcc: RIV  
J. Collins  
K. Seyfrit/Marshall  
Inspector  
S. File  
HQ File  
RIV File



APPENDIX

NOTICE OF VIOLATION

Oral Roberts University

Docket: 30-14781  
License: 35-18282-01

As a result of the inspection conducted on March 17-18, 1982, and in accordance with the NRC Enforcement Policy, (10 CFR Part 2, Appendix C), 47 FR 9987 (March 9, 1982), the following violations were identified:

1. License Condition 6 authorizes the possession of any form of Ni-63 not to exceed a total of 8 millicuries.

Contrary to this requirement, the licensee possessed a 15 millicurie Ni-63 sealed source contained in a Hewlett-Packard Model 5840 gas chromatograph on March 17, 1982.

This is a Severity Level IV violation (Supplement VI.C.2).

2. License Condition 16 requires, in part, that licensed activities be conducted in accordance with statements, representations, and procedures contained in your application dated September 5, 1978, and letter dated November 30, 1978, with attachment entitled "Manual for the use of Radioactive Material - Oral Roberts University."

- a. Section 8, Part 4 of the Item entitled "Handling of Radioactive Material," of the Oral Roberts University (ORU) radiation safety manual prohibits eating, storing or preparation of food in a laboratory or room where work with unsealed radioactive material is conducted and the possibility of contamination could exist.

Contrary to this requirement, a food item was discovered by the NRC inspectors in a laboratory where unsealed radioactive materials were being used on March 18, 1982.

- b. Section 8, Part 5 of the Item entitled "Handling of Radioactive Material," of the ORU radiation safety manual prohibits pipetting of radioactive material by mouth.

Contrary to this requirement, pipetting of P-32 by mouth was observed by the NRC inspectors on March 18, 1982.

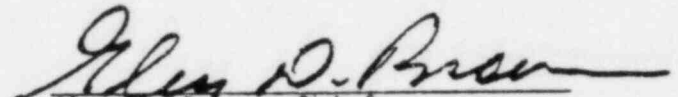
This is a Severity Level IV violation (Supplement IV.D.5).

8205180330 PDR  
LAP

Pursuant to the provisions of 10 CFR 2.201, Oral Roberts University is hereby required to submit to this office within 30 days of the date of this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) the corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

Dated

April 21, 1982



Glen D. Brown, Chief  
Technical Program Branch

INSPECTOR'S REPORT  
Office of Inspection and Enforcement

Whitten, Jack E.  
REVIEWER

INSPECTORS

Jack E. Whitten  
C.A. Hooker

LICENSEE/VENDOR

Oral Roberts University  
7777 South Lewis Avenue  
Tulsa, OK 74171

TRANSACTION TYPE

- ☒ - INSERT  
☐ - MODIFY  
☐ - DELETE  
☐ - REPLACE

DOCKET NO. (6 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)

03014781

REPORT

NO.	SEC.	MO.	YR.
8201	A	03	84
	B		
	C		
	D		

NEXT INSP. DATE

PERIOD OF INVESTIGATION/INSPECTION

FROM			TO		
MO.	DAY	YR.	MO.	DAY	YR.
03	17	82	03	18	82

INSPECTION PERFORMED BY:

- ☒ 1 - REGIONAL OFFICE STAFF  
☐ 2 - RESIDENT INSPECTOR  
☐ 3 - PERFORMANCE APPRAISAL TEAM

OTHER

ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See IEMC 0530 "Manpower Reporting—Weekly Manpower Reporting" for code)

REGION	DIVISION	BRANCH
4	B	A

REGIONAL ACTION  
(Check one box only)

- ☒ 1 - NRC FORM 581  
☐ 2 - REGIONAL OFFICE LETTER

TYPE OF ACTIVITY CONDUCTED (Check one box only)

- |   |   |   |   |
|---|---|---|---|
| <input checked="" type="checkbox"/> 02 - SAFETY | <input type="checkbox"/> 06 - MGMT. VISIT | <input type="checkbox"/> 10 - PLANT SEC.      | <input type="checkbox"/> 14 - INQUIRY       |
| <input type="checkbox"/> 03 - INCIDENT          | <input type="checkbox"/> 07 - SPECIAL     | <input type="checkbox"/> 11 - INVENT. VER.    | <input type="checkbox"/> 15 - INVESTIGATION |
| <input type="checkbox"/> 04 - ENFORCEMENT       | <input type="checkbox"/> 08 - VENDOR      | <input type="checkbox"/> 12 - SHIPMENT/EXPORT |   |
| <input type="checkbox"/> 05 - MGMT. AUDIT       | <input type="checkbox"/> 09 - MAT. ACCT.  | <input type="checkbox"/> 13 - IMPORT          |   |

INSPECTION INVESTIGATION FINDINGS  
(Check one box only)

A	B	C	D
<input checked="" type="checkbox"/>			

- 1 - CLEAR  
2 - VIOLATION  
3 - DEVIATION  
4 - VIOLATION & DEVIATION

TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS

A	B	C	D
0	2		

ENFORCEMENT CONFERENCE HELD

1 - YES

REPORT CONTAINING 279C INFORMATION

1 - YES

LETTER OR REPORT TRANSMITTAL DATE

NRC FORM 581 OR REG LETTER ISSUED

REPORT SENT TO HQ FOR ACTION

MO. DAY YR.			MO. DAY YR.		
04	21	82			

MODULE INFORMATION

MODULE INFORMATION

MODULE INFORMATION												MODULE INFORMATION																				
MODULE NUMBER INSP								MODULE REG. FOLLOWUP				MODULE NUMBER INSP								MODULE REG. FOLLOWUP												
TYPE	NUMBER	PHASE	MANUAL	CHAPTER	PROCEDURE	NUMBER	LEVEL	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	TYPE	NUMBER	PHASE	MANUAL	CHAPTER	PROCEDURE	NUMBER	LEVEL	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	TYPE	NUMBER	PHASE	MANUAL	CHAPTER	PROCEDURE	NUMBER	LEVEL	
B	530703	B					A					B	536740	B						A					B	536740	B					
B	577710	B					A		0.08	1.00		B							A					B								
B	592710	B					A		0.01			B							A					B								
B	592710	B					A		0.01			B							A					B								

NRC FORM 350-A  
(11-81)  
IF NRC DES:

**INSPECTOR'S REPORT**  
(Continuation)  
Office of Inspection and Enforcement

DOCKET NO. (8 digits) OR LICENSE  
NO. (BY PRODUCT) (13 digits)

03014781

REPORT

NO

SEC

MODULE NUMBER

577771105

VIOLATION SEVERITY OR DEVIATION

1 2 3 4 5 6

1 2 3 4 5 6

1 2 3 4 5 6

1 2 3 4 5 6

1 2 3 4 5 6

STATE

RELATES

AC

ED

VIOLATION OR DEVIATION (Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 80 characters each.)

License Condition 6 authorizes the possession of any form of Ni-63 not to exceed a total of 8 millicuries.

Contrary to this requirement, the licensee possessed a 15 millicurie Ni-63 sealed source contained in a Hewlett-Packard Model 5840 gas chromatograph on March 17, 1982.

This is a Severity Level IV violation (Supplement VII.D.3).

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

35-18282-1

Docket or Reference number

Amendment No. 06

THIS COPY IS FOR YOUR FILES

Oral Roberts University  
7777 South Lewis Avenue  
Tulsa, Oklahoma 74171

In accordance with letter dated March 29, 1982, License Number 35-18282-01  
is amended as follows:

To Add:

- |   |                                  |  |
|---|----------------------------------|--|
| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license |
| X. Nickel 63 foils                                    | X. Thin foils                    | X. Each foil not to exceed 15 millicuries                                      |
- 
9. Authorized use
- X. Foils will be used in electron capture detectors in gas chromatographs.

RECEIVED

APR 21 1982

ORU School of Medicine  
Associate Dean  
Biomedical Sciences

8207066152

APR 15 1982

Date \_\_\_\_\_

For the U.S. Nuclear Regulatory Commission

By \_\_\_\_\_

Material Licensing Branch

Division of Fuel Cycle and  
Material Safety  
Washington, D.C. 20555

15



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 1000  
ARLINGTON, TEXAS 76011

April 6, 1982

License: 35-18282-01

Oral Roberts University  
ATTN: Roger D. Hartman, Ph.D.  
Director  
Office of Research and Grants  
7777 South Lewis Avenue  
Tulsa, OK 74171

MAY 3 1982

Gentlemen:

This refers to the telephone conversation between Dr. Richard Gilmore and Mr. Jack E. Whitten of this office on March 26, 1982, regarding your use of a radioactive sealed source which is not authorized by your license.

Regarding the matter discussed, we understand that you have undertaken or will undertake the following actions:

- (1) Discontinue the use of the 15 millicurie Ni-63 sealed source contained in your Hewlett-Packard Model 5840 gas chromatograph.
- (2) Apply for an amendment to your license to add the 15 millicurie Ni-63 sealed source to your license.
- (3) Ensure that the device containing the unauthorized source is secure and not used until your license is amended by the NRC.

If our understanding of your planned actions as described above is not in accordance with the actual plans and action being implemented, please contact this office immediately.

Sincerely,

*John T. Collins*  
John T. Collins  
Regional Administrator

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

RECEIVED

~~78245474134~~ APR 1 1982

lp



# Oral Roberts University

7777 South Lewis • Tulsa, Oklahoma 74171

29 March 82

William J. Walker, Ph.D.  
Material Licensing Branch  
Division of Fuel Cycle and Material Safety  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20557

Re: NRC license no. 35-18282-01

Dear Dr. Walker:

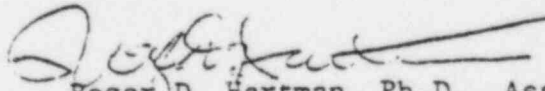
Regarding our telecon of Friday, 26 March 82, please consider this letter as a request to amend NRC license no. 35-18282-01 issued to Oral Roberts University as follows:

1. To add under item 6, sources, part X, "Ni<sup>63</sup> foils" as sealed sources
2. To add under item 7, part X, "thin foils"
3. To add under item 8, part X, "Each foil not to exceed 15 millicuries"

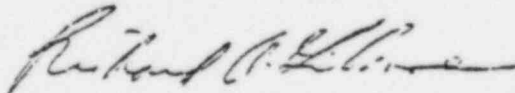
These foils will be used in electron capture detectors in gas chromatographs. The current instrument in use is a Hewlett-Packard, Model #5840-A, Serial C-1508.

Thank you for your expedient review and approval of this amendment.

Best regards,



Roger D. Hartman, Ph.D., Associate Dean  
Research and Grants Administration, and  
Acting Radiation Safety Officer



Richard A. Gilmore, Ph.D., Associate Dean  
Biomedical Sciences, and Chairman,  
Radiation Safety Committee

RDH:jcl

Enclosure

cc S. A. Garrett, M.D.  
Jack Whitten

~~8207060147 PDR~~

2PP



ORAL ROBERTS UNIVERSITY  
TULSA, OKLA. 74171

CHECK NO.

41219

\*\*\*\*\*FORTY DOLLARS AND NO CENTS\*\*\*\*\*

PAY TO THE ORDER OF

NUCLEAR REGULATORY COMMISSION

DATE  
3/30/82

CHECK AMOUNT  
\$40.00  
OPERATING FUND

NK OF COMMERCE, TULSA, OKLA.

⑈041219⑈ ⑆103900049⑆ ⑈106 216 6⑈



ORAL ROBERTS UNIVERSITY  
TULSA, OKLA. 74171

DATE  
3/30/82

CHECK  
41219

DATE	INVOICE OR CREDIT MEMO NUMBER	TYPE	DESCRIPTION	REFERENCE NO.	GROSS	DISCOUNTS	NET
3/30/82	CR36068		AMENDMENT TO THE ORU NRC LICENSE NO. 35-18281-01				
THE ATTACHED CHECK IS IN PAYMENT FOR ITEMS DESCRIBED ABOVE.					<b>TOTAL</b>		
					\$40.00		\$40.00

# Oral Roberts University

7777 South Lewis • Tulsa, Oklahoma 74171

22 March 82

Jack Whitten, Radiation Specialist  
U. S. Nuclear Regulatory Commission  
Region IV, Suite 100  
611 Ryan Plaza Drive  
Arlington, Texas 76011

Dear Mr. Whitten:

We are writing in reference to the inspection you and Mr. Charles Hooker made 16 and 17 March, 1982, at Oral Roberts University regarding our NRC Radioactive Materials License, #35-18 282-01.

The three issues raised regarding findings in the laboratories have been addressed and this is a preliminary report about that. The chairman of the department was notified of the deficiencies and the potential problems which could result. The technicians involved will be given specific instructions regarding radiation safety in the laboratory and they will not be allowed to use radioactive materials until this instruction has been given. A written record of the instruction will be placed in the file, and this record will be signed and dated by the technicians, the authorized users, under whom they work, the chairman of the department, and the acting Radiation Safety Officer. Part of this instruction will include references to employees' responsibilities for following procedures established by the institution.

Frequent unannounced inspections will be made in these laboratories to assure compliance. Should noncompliance be observed, the authorized user will be notified in person and in writing that his authorization to use radioisotopes has been suspended. Consideration to regaining authorization to use radioisotopes will include additional training for that user and the technicians.

The other items you mentioned are receiving attention and we will provide you additional information as quickly as possible.

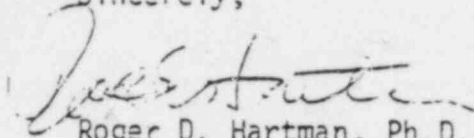
8207060156 RDD  
7PP

Jack Whitten, Radiation Specialist  
U. S. Nuclear Regulatory Commission

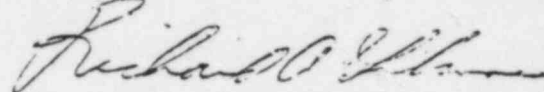
22 March 82  
Page 2

Enclosed are some descriptive materials about the University.  
Thank you for your time and efforts here.

Sincerely,



Roger D. Hartman, Ph.D.  
Acting Radiation Safety Officer



Richard A. Gilmore, Ph.D.  
Chairman, Radiation Safety Committee

RAG:jcl

cc: Mr. Charles Hooker  
Dr. Sydney Garrett

Enclosures

# INTEROFFICE MEMO

ORAL ROBERT UNIVERSITY • TULSA, OKLAHOMA 74171

To: RADIOISOTOPES USERS, Department of Pharmacology

From: C.N.Corder, Chairman of Pharmacology & Dan Hendrix, Student Lab Coordinator

Date: October 9, 1981

C.C. Dr. Richard Gilmore, Chairman Radiation Safety Committee; Dr. Roger Hartman,  
Radiation Safety Officer; file

Subject: Guidelines of Radioisotope Usage and Handling

Following is a recommended set of guidelines for radioisotope usage for the department of Pharmacology:

## I. Radiation Monitoring

1. Routine radiation safety wipes must be conducted weekly and documented by the appendix VIII form.
2. Isotope inventory records (appendix V) must be current.
3. The experimental use form (appendix VI) must be current.
4. Geiger counters are located in rooms 3B20, 3B12 and 3B06. They are to be used to fill out your weekly log book of readings.
5. Identify any radioactive waste barrel contents by the appendix VIII form. Your name, isotope and mCi must be filled out and left on top of the applicable waste receptacle.

## II. Major and Minor Radioactive Spills

1. Use the attached procedure as a guideline. Post near your work area in case of an accident.
2. Call the Radiation Safety Officer of ORU, Dr. Roger Hartman. All spills must be reported.

## III. Radioisotope Handling

1. Use tongs or forceps to hold the radioisotope source.
2. Body or finger badges must be worn at all times while at work.
3. Rubber or plastic gloves must be worn when working with unsealed radioactive materials.
4. Rooms in which radioactive materials are stored must be locked when vacant for any length of time.
5. Preparation of food, eating, smoking and drinking shall not take place in a room where radioactive materials are used.
6. Mouth pipetting and application of cosmetics are prohibited in rooms where radioactive materials are used.
7. Storage of food or drink shall be in a non-radioactive lab. Use of the refrigerator/freezer in room 3B05 is encouraged.
8. There will be no sewer disposal of radioactive waste.

## IV. Miscellaneous

1. Notify the department chairman of intent to change a radioactive lab to non-radioactive usage. A series of monitoring procedures will then be initiated before the room can be declared "safe".

These guidelines are meant to be followed, and will be in effect upon receipt of this memo. Spot inspections will be initiated shortly and any willful violators will be



IN CASE OF ACCIDENT, CALL THE APPROPRIATE NUMBER GIVEN BELOW:

FIRE AND POLICE, EXT. 7750

RADIATION SAFETY OFFICER, EXT. 6012

RADIOPAGE \_\_\_\_\_

MINOR SPILLS INVOLVING NO RADIATION HAZARD TO PERSONNEL

1. Notify all other persons in the room at once and retain them nearby.
2. Turn off air conditioners and seal area.
3. Permit only the minimum number of persons necessary to deal with the spill.
4. Confine the spill immediately.
5. Notify the Radiation Safety Officer as soon as possible.
6. Decontaminate.
7. Monitor all persons involved in the spill and cleaning.
8. Permit no persons to resume work in the area until a survey is made, and approval of the Radiation Safety Officer is secured.
9. Prepare a complete history of the accident and subsequent activity related thereto for the laboratory records.

MAJOR SPILLS INVOLVING RADIATION HAZARD TO PERSONNEL

1. Notify all persons not involved in the spill to vacate the room at once.
2. If the spill is liquid, and the hands are protected, right the container.
3. If the spill is on the skin, flush thoroughly.
4. If the spill is on clothing, discard outer or protective clothing at once.
5. Switch off all fans and air conditioners.
6. Vacate the room.
7. Notify the Radiation Safety Officer.
8. Take immediate steps to decontaminate the personnel involved as necessary.
9. Decontaminate the area.
10. Monitor all persons involved in the spill and cleaning.
11. Permit no return of personnel until the approval of the Radiation Safety Officer.
12. Prepare a complete history of the accident and subsequent activity thereto for the records of the Radiation Safety Officer.

THIS INSTRUCTION NOTICE WILL BE POSTED  
IN ALL LABORATORIES CONTAINING RADIOISOTOPES



# INTEROFFICE MEMO

ORAL ROBERT UNIVERSITY • TULSA, OKLAHOA 74171

To: Richard A. Gilmore, Ph.D., Associate Dean for Biomedical Sciences  
From: Clinton N. Corder, Ph.D., M.D., Chairman of Pharmacology  
Date: March 24, 1982  
C.C. Roger D. Hartman, Ph.D., Radiation Safety Officer  
Subject: Recent Violations of use of Radioisotopes in the Department of Pharmacology

M215

This is to note that I held a special meeting of all users of radioactive materials in the Department of Pharmacology on March 17, 1982. This is to note that I reminded each that I previously circulated a memorandum dated October 9, 1981, regarding Guidelines of Radioisotope Usage and Handling, and to further note that this memo was reviewed in detail with me on March 17, 1982. This is also to note that I reminded them that I had previously reviewed the memorandum from Dr. R. Gilmore on Laboratory Safety dated October 20, 1981, circulated in the department as Ref. No. 382. This memo was also again reviewed by me in detail on March 17, 1982. 182

Each user was required to sign a statement which acknowledged this meeting of March 17, 1980. These signed statements are in the personnel file of the pharmacology department. In addition, a copy of the signed statements by Thomas Blake and Nancy Leckie has been sent to you, as these specific individuals were involved in the NRC citations.

I have met further with various individuals and the room 3B06 has been cleared of unlabeled radioactive waste.

Thank you, and I apologize for this problem, particularly since we have made major efforts to insure compliance and will continue to do so.

RECEIVED

MAR 24 1982

OR

# INTEROFFICE MEMO

ORAL ROBERTS UNIVERSITY • TULSA, OKLAHOMA 74171

To: Clinton N. Corder, Ph.D., M.D., Chairman of Pharmacology, Professor of Pharm & Medicine  
From: Tom Blake, Pharmacology Research Technician  
Date: \_\_\_\_\_  
C.C. \_\_\_\_\_  
Subject: Radiation Laboratory Safety

215

This is to note that I met with you in a special meeting on March 17, 1982. Other users of radioactive materials in the Department of Pharmacology were also present. This is to note that I previously received your memorandum dated October 9, 1981 regarding Guidelines of Radioisotope Usage & Handling and to further note that this memo was reviewed in detail with me on March 17, 1982. This is also to note that I had previously reviewed the memorandum from Dr. R. Gilmore on Laboratory Safety dated October 20, 1981 and circulated in the department as Ref. No. 382. This memo was also reviewed by me in detail on March 17, 1982.

I understand that I was in violation of these rules and regulations, as cited by officers of the Nuclear Regulatory Commission in their visit on March 17, 1982. I guarantee that I will strive to insure that these violations will not happen again and I understand that if I am caught in violation, that it might lead to severe disciplinary action, including loss of my employment at Oral Roberts University.

Thomas Blake  
Tom Blake

3-19-82 Date

cc: ✓ Roger Hartman, Ph.D., Acting Radiation Safety Officer, ORU  
Richard Gilmore, Ph.D., Associate Dean for Biomedical Sciences

*Noted*  
*3-23-82*  
*One*

INTEROFFICE MEMO  
ORAL ROBERTS UNIVERSITY • TULSA, OKLAHOMA 74171

TO: Clinton N. Corder, Ph.D., M.D., Chairman of Pharmacology, Professor of Pharm & Medicine  
FROM: Nancy Leckie, Research Technician  
DATE: 3/14/82  
SUBJECT: Radiation Laboratory Safety

This is to note that I met with you in a special meeting on March 17, 1982. Other users of radioactive materials in the Department of Pharmacology were also present. This is to note that I previously received your memorandum dated October 9, 1981 regarding Guidelines of Radioisotope Usage & Handling and to further note that this memo was reviewed in detail with me on March 17, 1982. This is also to note that I had previously reviewed the memorandum from Dr. R. Gilmore on Laboratory Safety dated October 20, 1981 and circulated in the department as Ref. No. 382. This memo was also reviewed by me in detail on March 17, 1982.

I understand that I was in violation of these rules and regulations, as cited by officers of the Nuclear Regulatory Commission in their visit on March 17, 1982. I guarantee that I will strive to insure that these violations will not happen again and I understand that if I am caught in violation, that it might lead to severe disciplinary action, including loss of my employment at Oral Roberts University.

Nancy Leckie

3/19/82

Dated

cc: Nicholas P. Plotnikoff, Ph.D., Professor of Pharmacology  
Harold C. Harder, Ph.D., Associate Professor of Pharmacology  
Roger Hartman, Ph.D., Acting Radiation Safety Officer  
Richard Gilmore, Ph.D., Associate Dean for Biomedical Sciences

Noted  
3-23-82  
CNC

# Oral Roberts University

7777 South Lewis • Tulsa, Oklahoma 74171

19 March 82

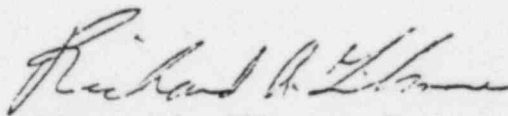
Jack E. Whitten, Radiation Specialist  
U. S. Nuclear Regulatory Commission  
Region IV, Suite T00  
611 Ryan Plaza Drive  
Arlington, Texas 76011

Dear Mr. Whitten:

Attached are copies of the paperwork we have on the Hewlett-Packard model 5840 gas chromatograph. This is the instrument containing the 15 mCi nickel-63 source, for which we are not presently licensed. Checking the previous license and amendments, I am unable to verify that we have been authorized to possess more than 2 mCi of nickel-63.

We will continue to investigate the purchase and delivery of this source. We will request a license amendment to authorize us to possess the source. We will keep you informed of our findings.

Sincerely,



Richard A. Gilmore, Ph.D.  
Chairman  
Radiation Safety Committee

RAG:jcl

cc Mr. Charles Hooker  
Dr. Roger Hartman

Enclosures

~~6207060143~~  
38P

RECEIVED  
FEB 26 1982  
ORU School of Medicine  
Anesthesia Dept  
Pharmaceutical Sciences

5840 A  
G.C.

18803

— 69520

Exchange

HP

By Product Verfi...

REQ. DELIVERY DATE 7-15-77		COST CENTER 5112-10-131		VEHICLE CODE		BUDGET APPROVAL	
DELIVER TO PR. GALT 12-33		BUDGET RECD.					
SHIP VIA:		APPR. DEPT. HEAD				EXEC. V. PRES.	
PHOTO EXT 2.122		FOB		TERMS		APPR. DEAN OR V. PRES.	
						EXEC. V. PRES.	
DESCRIPTION				ESTIMATE UNIT PRICE	ESTIMATE TOTAL PRICE	ACTUAL UNIT PRICE	ACTUAL TOTAL PRICE
2-Pack of Model 5042 CNA Generator with Electrode					15,025.00		
Two Detector and Programmable Integrator							
Total System 10 8-16-77 1-1 (Fisher) J. Carter					2,140.01		
Knockoff Block Assembly J. Carter							
9-20-77							
GRAND TOTAL					17,165.01		

RECEIVED BY

DATE PROCESSED

APPROVED BY

RECEIVING DATE

RECEIVED BY

DATE PROCESSED

APPROVED BY

CONF. W

FORWARDED BY AFTER

ORIGINATOR



# ORAL ROBERTS UNIVERSITY

## Interoffice Memo

To: Sydney A. Garrett, M.D., Dean, School of Medicine

From: Dr. John Carter

Date: June 6, 1979

CC:

Subject: Purchases

APPROVALS

DATE

Dean

Vice-Provost

Provost

Mr. Bill Roberts *initials* 7/12

SUPPLIER

Hewlett-Packard

COST CENTER

5160-69-831

DEPARTMENT

Anatomy

REQUISITIONER

*John W. Carter*

PHONE EXT.

2322

QUAN. VENDOR NO.

DESCRIPTION

ESTIMATE  
UNIT PRICE

ESTIMATE  
TOTAL PR.

1 5840 Hewlett-Packard Model 5840 Gas

Chromatograph with Electron Capture

15,525.00

15,525.00

Detector and Programmable Integrator

1 9-034-120 Barnstead System 10

2,840.00

2,840.00

GRAND TOTAL

18,365.00

JUSTIFICATION: (continue on back, if necessary)

Justification for the above item is attached.



JUN 02 1982

License: 35-19898-01

City of Faith Medical and Research Center  
ATTN: William B. Luttrell  
Chief Administrative Officer  
8181 South Lewis Avenue  
P. O. Box 3600  
Tulsa, OK 74136

Gentlemen:

Thank you for your letter of May 14, 1982, in response to our letter and the attached Notice of Violation dated April 21, 1982. We have no further questions at this time, and we will review your corrective action during a future inspection.

Sincerely,

"Original Signed by:  
G. D. BROWN"

Glen D. Brown, Chief  
Technical Program Branch

bcc c/o DMB  
AEOD  
IE Files  
IE/RSB  
NMSS  
NRC PDR

bcc: RIV  
J. Collins  
KSeifrit/Marshall  
Inspector  
S. File  
HQ File  
RIV File

~~8246216447 PDR~~  
LP

MRPS  
JWhitten/de  
5/25/82

MRPS  
JEverett  
6/3/82

TPB  
GBrown  
5/2/82

DIES  
EJohnson  
6/7/82

John  
6/7/82



**CITY OF FAITH**  
Medical and Research Center  
Oral Roberts Ministries

May 14, 1982

MAY 20 1982

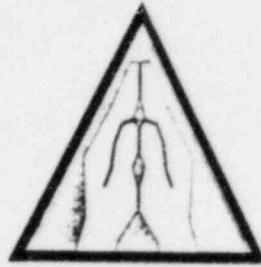
United States  
Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76011

Gentlemen:

In accordance with the provisions of Section 2.201 of the Nuclear Regulatory Commission "Rules of Practice", Part II, Title 10, Code of Federal Regulations, we are responding to the specifics contained in the notice of violation dated April 21, 1982, which stemmed from the initial safety inspection of activities authorized by the N.R.C. Byproduct Materials License 35-19898-01. Each violation will be addressed in order and include the following:

- 1) Appendix D: Failure to test the dose calibrator for geometrical variation, linearity, and accuracy.
- 2) Appendix D: Failure to test the dose calibrator daily for instrument constancy.
- 3) Appendix I: Failure of daily surveys in the Hot Lab and injection areas.
- 4) Appendix F: Failure to obtain exposure rates of all packages containing radioactive material.
- 5) Appendix O: Failure of the Radiation Safety Officer to make a quarterly review of occupational exposures to determine that the exposures are ALARA.
- 6) Failure of the Nuclear Medicine "Hot Lab" and the Xenon 133 delivery rooms to have lockable doors.
- 7) Failure to post copies of 10CFR-Part 19, 10CFR-Part 20, and the current license.
- 8) Failure to post Form NRC-3 "Notice of Employees" in any restricted area.
- 9) Failure to post signs bearing the Radiation Caution symbol and the words "Caution Radioactive Materials".

~~874621459 PDR~~  
6pp



## CITY OF FAITH

Medical and Research Center  
Oral Roberts Ministries

- 10) Failure to record the results of leak test made on calibration or referenced sealed sources containing 100 microcuries or more of byproduct material in units of microcuries.
- 11) Failure to conduct a quarterly physical inventory to account for all sealed sources received and possessed.

Reply to these violations is as follows:

1:

- A) Test of dose calibrator for geometrical variation, linearity and accuracy were performed in accordance with the methods for calibration of dose calibrators outlined in Appendix D: Section Two. The results of these test indicated a geometrical variation of less than plus or minus 2%, a linearity of less than plus or minus 5%, and an accuracy within plus or minus 5% after decay corrections.
- B) Test of the dose calibrator for geometrical variation, linearity, and accuracy are required under the provisions of our Nuclear Medicine Policy and Procedures Manual. Results of these tests are documented on forms drawn up by the Nuclear Medicine Department and reviewed monthly by the Radiation Safety Officer and quarterly by the Raidation Safety Committee. Results of instrument accuracy measurements using standard sources are graphed daily.
- C) Full compliance was achieved and has been in effect since April 1, 1982.

2:

- A) Using the method prescribed under Appendix D: Section Two, the dose calibrator is tested daily for instrument constancy using a CS-137 source at all the commonly used radionuclides settings. This is plotted on semi-log paper. No variations greater than plus or minus 5% from the predicted activity have been found.
- B) A daily instrument constancy check is required in the Nuclear Medicine Department's Policy and Procedure Handbook. The data obtained is reviewed monthly by the RSO and quarterly by the Radiation Safety Committee.
- C) Full compliance was achieved on April 1, 1982.

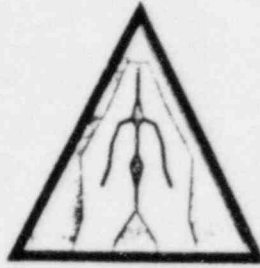


## CITY OF FAITH

Medical and Research Center  
Oral Roberts Ministries

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- 3:
- A) Daily air surveys are performed with a Geiger Mueller meter and documented. The results of these studies are recorded as mR/hr. Weekly wipe tests are also performed and recorded. Results of these studies are recorded in uCi units.
  - B) These documents are checked monthly by the Radiation Safety Officer. The Radiation Safety Committee reviews these documents quarterly.
  - D) Full compliance was achieved on March 15, 1982.
- 4:
- A) Packages containing unit doses are received daily. These are surveyed for exposure rate taken at contact and at three feet from the package. These data are recorded on the daily receipt log.
  - B) Survey of all incoming packages is part of the Policy and Procedures Manual for the Nuclear Medicine Department. The Radiation Safety Officer reviews the data from the surveys monthly and the Radiation Safety Committee reviews them quarterly.
  - C) Full compliance was achieved on April 15, 1982.
- 5:
- A) Occupational exposures are determined for personnel in the Nuclear Medicine Department. These have been reviewed and have not exceeded investigational Level One.
  - B) As part of our commitment to the ALARA program, dosimetry data for personnel in the Nuclear Medicine Department are reviewed monthly by the Radiation Safety Officer and quarterly by the Radiation Safety Committee.
  - C) Full compliance was achieved on March 19, 1982.
- 6:
- A) Locks have been installed on the entrance doors to the Nuclear Medicine "Hot Lab". Nuclear Medicine personnel, the Radiation Safety Officer, and Security are the only personnel with keys to the Hot Lab. The Xenon 133 delivery room as yet does not have



## CITY OF FAITH

Medical and Research Center  
Oral Roberts Ministries

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a lockable door.

B) Options regarding the Xenon 133 room are:

1) At current levels of operation less than two Xenon 133 studies are performed per month. Until compliance is achieved, we would prefer to continue performing these studies not to exceed three cases per month.

2) A lockable door will be installed; thus sealing the Xenon 133 delivery room.

C) Full compliance with lockable doors for the Nuclear Medicine "Hot Lab" was achieved on March 20, 1982. Full compliance with a lockable door for the Xenon 133 delivery room can be achieved by July 1, 1982.

7:

A) A notice specifying where the Nuclear Medicine license, 10CFR-Part 19, and 10CFR-Part 20 can be found is placed within the Nuclear Medicine "Hot Lab".

B) As part of the Radiation Safety Committee internal audit check-list it is noted that it is necessary to know where these documents can be found.

C) Full compliance was achieved on March 15, 1982.

8:

A) Form NRC-3, "Notice of Employees" is posted in the Nuclear Medicine "Hot Lab".

B) The posting of such documents has been added to the Radiation Safety Committee internal audit check-list for quarterly meetings.

C) Full compliance was achieved on March 15, 1982.

9:

A) Signs bearing the "Radiation Caution" symbol and the words "Radioactive Material" have been placed outside the Nuclear Medicine Department, on the doors to the various imaging rooms and the Nuclear





## CITY OF FAITH

Medical and Research Center  
Oral Roberts Ministries

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Medicine "Hot Lab".

- B) Posting of such signs has been added to our internal audit checklist to be reviewed quarterly by the Radiation Safety Committee.
- C) Full compliance was achieved on March 15, 1982.

10:

- A) Leak tests have been made on referenced sealed sources of Cesium-137, Cobalt-133, Barium-133. The results of these studies were negative. Appropriate documentation is in place. Initially these were in counts-per-minute; however, these are now given in microcuries.
- B) As part of the Policy and Procedure Manual for the Nuclear Medicine Department, leak tests are performed on a quarterly basis. The results of these studies are reviewed by the Radiation Safety Officer and the Radiation Safety Committee on a quarterly basis. The results are given in units of microcuries.
- C) Full compliance was achieved on March 15, 1982.

11:

- A) An inventory of all sealed sources received and possessed was carried out.
- B) The inventory will be conducted at least quarterly and reviewed by the Radiation Safety Officer and the Radiation Safety Committee. These are appropriately documented and noted in the Policy and Procedures Manual of the Nuclear Medicine Department.
- C) Full compliance was achieved on April 30, 1982.

With the exception of the lockable door for the Xenon-133 delivery room, appropriate steps have been taken to correct all of the violations brought forth by the recent N.R.C. inspection. A lockable door for the Xenon-133 delivery room should be in place by July 1, 1982.

Regarding your concern about the role of management in meeting our license requirements, it should be noted that the Radiation Safety Committee has taken an active





## CITY OF FAITH

Medical and Research Center  
Oral Roberts Ministries

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role in addressing the issue of these violations. Mr. Phil Prosser, as Assistant Administrator, sits on this committee and has been actively engaged in the review of these violations and the implementation of corrections. The Radiation Safety Committee, while required to meet quarterly, has been meeting on a twice-per-month basis. Copies of the meetings' minutes have been sent to Dr. James Winslow, Chief Executive Officer, Len Genung, Clinic Administrator, Joe Gunn, Hospital Administrator, Patrick D. Lester, Chairman of the Department of Radiology, and myself. An internal audit system has been set up within the Radiation Safety Committee so that the appropriate documents can be reviewed by respective representatives of Administration and Nursing to see that they meet the requirements of our Nuclear Medicine license. The Radiation Safety Officer, of course, reviews such documents on a more frequent basis.

We believe that we have taken the necessary steps to correct the violations brought to our attention by the recent Safety inspection conducted by representative of the Nuclear Regulatory Commission. We also believe that appropriate forms for documenting compliance with these regulations of our license are in place and that through an internal audit check-list, review of these documents can be made by the Radiation Safety Officer, the Radiation Safety Committee and the Management of this institution. If you require further elaboration on any points in our reply we would happy to furnish them.

Sincerely,

William Luttrell  
Chief Administrative Officer

License: 35-19898-01

City of Faith Medical and Research Center  
ATTN: William B. Luttrell  
Chief Administrative Officer  
8181 South Lewis Avenue  
P. O. Box 3600  
Tulsa, OK 74136

Gentlemen:

This refers to the initial safety inspection conducted by Messrs. J. E. Whitten and C. A. Hooker of this office on March 15-16, 1982, of the activities authorized by the NRC Byproduct Material License 35-19898-01 and to the discussion of our findings held by the inspectors with members of your staff at the conclusion of the inspection.

The inspection was an examination of the activities conducted under the license as they relate to radiation safety and to compliance with the Commission's rules and regulations, and the conditions of the license. The inspection consisted of selective examinations of procedures and representative records, interviews of personnel, independent measurements, and observations by the inspector.

During this inspection certain of your activities were found not to be conducted in full compliance with NRC requirements. Consequently, you are required to respond to this matter in writing in accordance with the provisions of Section 2.201 of the NRC "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Your response should be based on the specifics contained in the Notice of Violation attached to this letter.

In addition, we are concerned about the implementation of your program for management control of your licensed activities that permitted these violations to occur. Consequently, in your reply you should describe, in particular, those actions taken or planned to improve the effectiveness of your management control of the requirements of your license.

The responses directed by this letter and accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

MRPS  
JWhitten/de  
4/5/82

MRPS  
JEverett  
4/7/82

TPB  
GBrown  
4/7/82

DRA E. Dahnman  
KSeifert JCollins  
4/ /82 4/x/82

62-5070293 PDR

2PP

4/14/82  
280  
4/19/82

City of Faith Medical and Research  
Center

-2-

Should you have any questions concerning this letter, we will be pleased to discuss them with you.

Sincerely,

John T. Collins  
Regional Administrator

Enclosure:  
Appendix - Notice of Violation

bcc: c/o DMB  
AEOD  
IE Files  
IE/RSB  
NMSS  
NRC PDR

bcc: RIV

J. Collins  
K. Seyfrit/Marshall  
Inspector  
S. File  
HQ File  
RIV File

APPENDIX

NOTICE OF VIOLATION

City of Faith Medical and Research Center

Docket: 30-19491  
License: 35-19898-01

As a result of the inspection conducted on March 15-16, 1982, and in accordance with the NRC Enforcement Policy, (10 CFR Part 2, Appendix C), 47 FR 9987 (March 9, 1982), the following violations were identified:

1. License Condition 17 requires that licensed activities shall be conducted in accordance with statements, representations, and procedures contained in radioactive material license application dated November 3, 1981. The license application contains a commitment to follow the recommendations of Regulatory Guide 10.8.

- a. Appendix D of the Regulatory Guide requires that the dose calibrator be tested initially for geometrical variation, quarterly for linearity, and annually for accuracy.

Contrary to this requirement, neither geometrical variation, quarterly linearity, or annual accuracy test had been done on the dose calibrator during the period November 9, 1981 to March 15, 1982.

- b. Appendix D, Section 2.C.5, of the Regulatory Guide requires that the dose calibrator be tested daily for instrument constancy and the results of these daily checks be plotted on a graph.

Contrary to this requirement, daily instrument constancy checks had not been plotted on a graph during the period November 9, 1981 to March 15, 1982.

- c. Appendix I of the Regulatory Guide requires that all elution, preparation, and injection areas will be surveyed daily and decontaminated as required.

Contrary to this requirement, radiation surveys of elution, preparation, and injection areas had been conducted weekly during the period November 9, 1981 to March 15, 1982.

- d. Appendix F of the Regulatory Guide requires that all packages containing radioactive material will have the exposure rate taken at contact and at 3 feet from the package.

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11pp

Contrary to this requirement, the exposure rate had not been taken at contact and at 3 feet from any packages received containing radioactive material during the period November 9, 1981 to March 15, 1982.

- e. Appendix O, Section 6, of the Regulatory Guide requires that the radiation safety officer make a quarterly review of occupational exposures to determine that the exposures are ALARA.

Contrary to this requirement, the radiation safety officer stated that he had not made any quarterly reviews of occupational exposures as required by Appendix O during the period November 9, 1981 to March 15, 1982.

- f. Application section entitled "Facility Diagram" requires, in part, that the nuclear medicine "hot lab" and the Xe-133 delivery rooms have lockable doors.

Contrary to this requirement, NRC inspectors observed that neither the nuclear medicine "hot lab" or the Xe-133 delivery rooms had lockable doors on March 15, 1982.

This is a Severity Level IV violation (Supplement VI.D.2).

- 2. 10 CFR 19.11(a) and (b) require that each licensee shall post current copies of 10 CFR Part 19, 10 CFR Part 20, and the license or a notice specifying where such documents may be found and examined.

Contrary to this requirement, neither the required documents nor a notice were posted on March 15, 1982.

This is a Severity Level V violation (Supplement VI.E).

- 3. 10 CFR 19.11(c) requires that Form NRC-3, "Notice of Employees," shall be posted by each licensee wherever individuals work in or frequent any portion of a restricted area.

Contrary to this requirement, such a form was not posted on March 15, 1982.

This is a Severity V violation (Supplement VI.E).

- 4. 10 CFR 20.203(e) requires, in part, that each area or room in which licensed radioactive material is used or stored and which contains any radioactive material in amounts exceeding 10 times the quantities specified in Appendix C of Part 20 shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words: "CAUTION RADIOACTIVE MATERIAL."

Contrary to this requirement, NRC inspectors observed that "CAUTION RADIOACTIVE MATERIAL" signs were not posted on the doors to the nuclear medicine "hot lab" which contained quantities of radioactive material in excess of the amounts outlined in Appendix C of Part 20 on March 15, 1982.

This is a Severity Level V violation (Supplement VI.E).

5. 10 CFR 35.14(e)(2) requires, in part, that the results of leak tests made on calibration or reference sealed sources containing 100 microcuries or more of byproduct material be given in units of microcuries.

Contrary to this requirement, results of leak test made on a 234 microcurie Ba-133 and a 266 microcurie Cs-137 sealed calibration sources were given in counts per minute on the November 11, 1981, leak test report.

This is a Severity Level V violation (Supplement VI.E).

6. 10 CFR 35.14(f)(2) requires, in part, that the licensee conduct a quarterly physical inventory to account for all sealed sources received and possessed.

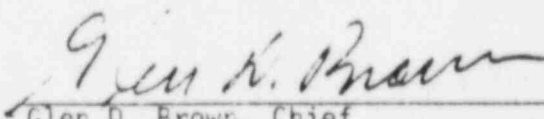
Contrary to this requirement, a licensee representative stated that a quarterly physical inventory of sealed sources had not been conducted during the period November 11, 1981 to March 15, 1982.

This is a Severity Level V violation (Supplement VI.E).

Pursuant to the provisions of 10 CFR 2.201, City of Faith Medical and Research Center is hereby required to submit to this office within 30 days of the date of this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) the corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

Dated

2/1/82

  
Glen D. Brown, Chief  
Technical Program Branch



INSPECTOR'S REPORT  
Office of Inspection and Enforcement

Whitten, J.E.  
REVIEWER

INSPECTORS  
Jack E. Whitten  
C.A. Hooker

LICENSEE/VENDOR	TRANSACTION TYPE	DOCKET NO. (8 dpts) OR LICENSE NO. (8) PRODUCT (13 dpts)	REPORT		NEXT INSP. DATE	
			NO	SEQ	MO	YR
City of Faith Med & Res Ctr 6181 South Lewis Tulsa, Ok 74136	I - INSERT	020 3491	6201	A	0	82
	M - MODIFY			B		
	D - DELETE			C		
	R - REPLACE			D		

PERIOD OF INVESTIGATION/INSPECTION						INSPECTION PERFORMED BY		ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See 11 MC 0531: Manpower Reporting - Weekly Manpower Reporting for code)		
FROM			TO							
MC	DAY	YR	MC	DAY	YR	1 - REGIONAL OFFICE STAFF	OTHER	REGION	DIVISION	BRANCH
06	15	82	07	16	82	2 - RESIDENT INSPECTOR		4	B	A
						3 - PERFORMANCE APPRAISAL TEAM				

REGIONAL ACTION (Check one box only)		TYPE OF ACTIVITY CONDUCTED (Check one box only)			
1 - NRC FORM 58	2 - REGIONAL OFFICE LETTER	01 - SAFETY	02 - MGMT VISIT	10 - PLANT SEC	14 - INQUIRY
		03 - INCIDENT	07 - SPECIAL	11 - INVENT VER	15 - INVESTIGATION
		04 - ENFORCEMENT	08 - VENDOR	12 - SHIPMENT/EXPORT	
		05 - MGMT AUDIT	09 - MAT ACCT	13 - IMPORT	

INSPECTION INVESTIGATION FINDINGS (Check one box only)				TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS		ENFORCEMENT CONFERENCE HELD		REPORT CONTAIN 279: INFORMATION		LETTER OR REPORT TRANSMITTAL DATE		
A	B	C	D									
1 - CLEAR												
2 - VIOLATION												
3 - DEVIATION												
4 - VIOLATION & DEVIATION												
				06		1 - YES		1 - YES		04/21/82		

MODULE INFORMATION														MODULE INFORMATION														
MODULE NUMBER INSP										MODULE REG FOLLOWUP				MODULE NUMBER INSP										MODULE REG FOLLOWUP				
TYPE	NUMBER	PHASE	MANUAL	CHAPTER	PROCEDURE	NUMBER	LEVEL	PRIORITY	DIRECT INSP/CT	PERCENTAGE COMPLETED	STATUS	PHASE	MANUAL	CHAPTER	PROCEDURE	NUMBER	LEVEL	PRIORITY	DIRECT INSP/CT	PERCENTAGE COMPLETED	STATUS	PHASE	MANUAL	CHAPTER	PROCEDURE	NUMBER	LEVEL	
B	5305	F	05					A	001			B	5306	F	05			A	001				B	5307	F	05		
								B										B										
								C										C										
								D										D										
B	0307	F	05					A	001			B						A										
								B										B										
								C										C										
								D										D										
B	0705	F	05					A	008	100%		B						A										
								B										B										
								C										C										
								D										D										
B	0927	F	05					A	001			B						A										
								B										B										
								C										C										
								D										D										

**INSPECTOR'S REPORT**  
 (Continuation)  
 Office of Inspection and Enforcement

DOCKET NO. (FACILITY OF LICENSEE) NO. (BY PRODUCT) (DATE)		RE NO.	SEC	MODULE NUMBER	VI
050 24911		82101	A	VIOLATION SEVERITY OR DEVIATION	
			B	1	2
			C	3	4
			D	5	6
			E	7	8
				9	10
				11	12
				13	14
				15	16
				17	18
				19	20
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				99	100

License Condition 17 requires that licensed activities shall be conducted in accordance with statements, representations, and procedures contained in radioactive material license application dated November 3, 1981, with Model ALARA Program. The license application contains a commitment to follow the recommendations of Regulatory Guide 10.6.

- a. Appendix D of the Regulatory Guide requires that the dose calibrator be tested initially for geometrical variation, quarterly for linearity and annually for accuracy.

Contrary to this requirement, neither geometrical variation, quarterly linearity or annual accuracy test had been done on the dose calibrator during the period November 9, 1981 to March 15, 1982.

- b. Appendix D of the Regulatory Guide requires that the dose calibrator be tested daily for instrument constancy and the results of these daily checks be plotted on a graph as specified in Section 2.C.5.

Contrary to this requirement, daily instrument constancy checks had not been plotted on a graph during the period November 9, 1981 to March 15, 1982.

- c. Appendix I of the Regulatory Guide requires that all elution, preparation, and injection areas will be surveyed daily and decontaminated if required.

Contrary to this requirement, <sup>radiation</sup> ~~daily~~ surveys of elution, preparation, and injection areas had been made weekly during the period November 9, 1981 to March 15, 1982.

- d. Appendix F of the Regulatory Guide requires that all packages containing radioactive material will have the exposure rate taken at contact and at three feet from the package.

Contrary to this requirement, the exposure rate had not been taken at contact and at three feet of any packages containing radioactive material during the period November 9, 1981 to March 15, 1982.

- e. Appendix O of the Regulatory Guide requires that the radiation safety officer make a quarterly review of occupational exposures to determine that the exposures are ALARA in accordance with Section 6 of this appendix.

Contrary to this requirement, the radiation safety officer stated that he had not made any quarterly reviews of occupational exposures as required by Appendix O during the period November 9, 1981 to March 15, 1982.

WRC Form 700-A (1-78) R. MC 0501	DOCKET NO. (8 digits) OF LICENSE NO. (8) PRODUCT (113 digits)		F NO. SEC.		MODULE NUMBER										
<b>INSPECTOR'S REPORT</b> (Continuation) Office of Inspection and Enforcement				A		VIOLATION SEVERITY OR PUNISHMENT					BTS RELATED				
				B		1 2 3 4 5 6					H.C.				
				C							H.D.				
				D											

- f. Application section entitled "Facility Diagram" requires, in part, that the nuclear medicine "hot lab" and the Xe-133 delivery rooms have lockable doors. :

WAC FORM 700-A 11-8 H.M.C. 057		DOCKET NO. (IF REG. OF LICENSE) NO. (BY PRODUCT) (130091)		RI NC	SEC 5201	MODULE NUMBER 77871101B VI	VI
<b>INSPECTOR'S REPORT</b> (Continuation) Office of Inspection and Enforcement		051019291		A B C D		VIOLATION SEVERITY OF DEVIATION 1 2 3 4 5 6 ✓	B7E RELATED A C E D

10 CFR 19.11(a) and (b) require that each licensee shall post current copies of 10 CFR Part 19, 10 CFR Part 20, and the license or a notice specifying where such documents may be found and examined.

Contrary to this requirement, neither the required documents nor a notice were posted on March 15, 1982.

This is a Severity Level V violation (Supplement VI.E).

## Office of Inspection and Enforcement

EXCISE NO. (8 digit) OF LICENSE										SI		MODULE NUMBER						VI			
NO. (8) PRODUCT (13 digit)										NO		SEC		57871101E							
03019491										5201		A		VIOLATION, DEVIATION OR DERIVATION						B7C RELEAS	
												B		1 2 3 4 5 6						1A C	
												C								1B C	
												D		1						1C	

10 CFR 19.11(c) requires that Form NRC-3, "Notice to Employees," shall be posted by each licensee wherever individuals work in or frequent any portion of a restricted area.

Contrary to this requirement, such a form was not posted on March 15, 1982.

This is a Severity Level V violation (Supplement VI.E).

NRC FORM 700-A 11-84 11-84-001	INSPECTOR'S REPORT (Continuation) Office of Inspection and Enforcement										DOCKET NO. (REG. OR LICENSE) NO. (N-PRODUCTIVITY)		RI	MODULE NUMBER		VI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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NRC FORM 700-A  
 (Rev. 11-80)  
 (H. MC 053)

**INSPECTOR'S REPORT**  
 (Continuation)  
 Office of Inspection and Enforcement

DOCKET NO. (FROM DA LICENSE)		REG.		MOD. (N. 101)	
NO. (BY PRODUCT) 1130218		NO.	BEC	57571115	
05101948		5201	A	VIOLATION SEVERITY OF DEVIATION	
			B	1	2
			C	3	4
			D	5	6
			E		

10 CFR 35.14(e)(2) requires, in part, that the results of leak test made of calibration or reference sources containing 100 microcuries or more of radioactive byproduct material be given in units of microcuries.

Contrary to this requirement, results of leak test made on a 234 microcurie Ba-133 and 266 microcurie Cs-137 sealed calibration sources were given in counts-per-minute on the November 11, 1981, leak test report.

This is a Severity Level V violation (Supplement VI.E).

WFO FORM 700-A  
1-78  
11-80-001

**INSPECTOR'S REPORT**  
(Continuation)  
Office of Inspection and Enforcement

DOCKET NO. 1886-14 OF LICENSE NO. 181-PROD-113-0-014										MODULE NUMBER 57571101B VI	
0510-14P										52101	
										A	
										B	
										C	
										D	
										VIOLATION SEVERITY OR DEVIATION	
										1 2 3 4 5 6	
										E	
										F	
										G	
										H	
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10 CFR 35.14(f)(2) requires, in part, that the licensee conduct a quarterly physical inventory to account for all sealed sources received and possessed.

Contrary to this requirement, a licensee representative stated that a quarterly physical inventory of sealed sources had not been conducted during the period November 11, 1981 to March 15, 1982.

This is a Severity Level Y violation (Supplement VI.E).