



DEPARTMENT OF THE ARMY

U.S. ARMY LABORATORY COMMAND
MATERIALS TECHNOLOGY LABORATORY
WATERTOWN, MASSACHUSETTS 02172-0001

40-2253

REPLY TO
ATTENTION OF

SLCMT-DHS (200)

7 July 1988

MEMORANDUM FOR: U.S. Nuclear Regulatory Commission, Region I, ATTN: Mr. John D. Kenneman, Nuclear Safety Section D, Division of Radiation Safety and Safeguards, 475 Allendale Road, King of Prussia, PA 19406.

via: Headquarters, U.S. Army Laboratory Command, ATTN: AMELC-SO (Mr. M. Borisky), 2800 Powder Mill Road, Adelphi, MD 20783-1145.

rec'd 27 July 88

~~Headquarters, U.S. Army Command, ATTN: AMCSE-E (Ms. P. Elker), 5001 Eisenhower Avenue, Alexandria, VA 22333-0601.~~

Mars 28 July

SUBJECT: Reply to Inspection NO. 88-001 Findings.

1. The following corrective actions have been taken in response to the findings of your safety inspection of April 26, 1988.

a. Dose rate measurements were made, substantiating the presence of a high radiation area and the area has been correctly posted as such.

b. Interim access controls to the area where the Californium-252 source is located have been implemented in order to assure compliance with 10 CFR 20.203. More specifically, the doors to the building are maintained locked (keys are controlled) whenever the source holder is unlocked, the source is being monitored or a license designated user is attending the source. Keys to the source holder are secured by designated users.

c. A purchase request for a security fencing with a sliding gate and bronze mortise cylinder lock has been submitted. This fencing will be installed such that the source window and surrounding area will be inaccessible when the gate is locked. Also, an interlock will be installed such that the source shutter cannot be opened when the gate is open and if the gate is opened while the source is exposed, the shutter will automatically close - thus providing an addition safety measure.

d. Stricter access control and increased personnel awareness of regulatory requirements will be achieved when the corrections indicated above are in place. Our Facilities Division has submitted a purchase request for the purchase and assembly (construction) of the security fencing and a contract for this work should be out for bid by 18 July 88. However, more time is required in order to specify the completion date of this project.

e. Standing Operating Procedures governing the use of this source will be updated to reflect the corrective actions indicated above and periodic inspections of the area by Health Physics personnel will serve to avoid further violations.

f. If further information is required contact Peter Cornetts, RPO or Lucas Demetroulakos, ARPO (617) 923-5225.

Edward S. Wright

EDWARD S. WRIGHT
Director
Materials Technology Laboratory

8912280138 891214
PDR FOIA
FARBER89-476 PDR

6/3

SLOMT-DHS (385)

SUBJECT: Urinalysis and Stack Effluent Data for the years 1986 and 1987.

4. Presently all operations involving licensed materials are being monitored in accordance with NRC regulations.

Encl.

Edward S. Wright
Dr. Edward S. Wright
Director, MTL

LICENSE NO: _____

DOCKET NO. (s) 031-04593
070-00263
040-04253

PAGE _____ OF _____

ATTACHED

- Appendix A
- Appendix B
- Appendix C
- Memo

INSPECTION REPORT NO. _____
Department of the Army
AMMRC
Watertown, Massachusetts

LICENSEE CONTACT: W. Lorenzen, RSO Telephone No: 617-923-5225

LICENSE NO: 20-01010-04 CATEGORY E PRIORITY: 3
SNM-244 CATEGORY E PRIORITY: 3
SVB-238 CATEGORY E PRIORITY: 3

INSPECTION DATE (s): 3/5/85 TYPE OF INSPECTION: SPECIAL ANNOUNCED
 ROUTINE UNANNOUNCED
 DAYSHIFT
 OTHER

SUMMARY OF FINDINGS AND ACTION

- NO NONCOMPLIANCE, CLEAR 591 ISSUED
- NO NONCOMPLIANCE, LETTER
- NONCOMPLIANCE, APPENDIX A
- ACTION ON PREVIOUS NONCOMPLIANCE, APPENDIX B
- NONCOMPLIANCE, 591 ISSUED
- SUPPLEMENTAL INFO, APPENDIX C

RECOMMENDATIONS
SEE BASIS IN APPENDIX C

CHANGE CATEGORY TO: _____ CHANGE PRIORITY TO: _____
 NEXT INSPECTION DATE: 3-88

PERSONS CONTACTED

* E. Wright, Director
T. Gorton, Safety Director
W. Lorenzen, RSO
J. Benson, Military Supervisor
V. Vico, Machinist
Other radiation workers

INSPECTOR: Claude Rowe 3-8-85
APPROVED: John D. Kerner 3-8-85

A/H

INSPECTION PLAN AND REPORT NUMBER _____ Page _____ of _____

Plan Approved: _____ Date: _____

Licensee: _____ License No. _____

Inspection Items	Scheduled for Inspection	Post Inspection Status	Module No.
Management Meeting - Entrance and Exit Interviews (Required)			30703B
Program Requirements, MC 2850 (Required)			77710B
Followup on Noncompliance and Deviations			92702B
Independent Inspection Effort (Required)			92706B
Transportation			86740B

AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEMS	CRITERIA	FINDING
1. <u>Organization</u>	Lic Cond _____	<u>C</u>
Management organization? Radiation Protection Organization? Scope of Operation? NOTES & REMARKS:		<i>Sealed sources only with increasing use. Machine; melting of depleted uranium. calibration faulty. Major use now in calibration facility and work with depleted uranium.</i>
2. <u>Licensee Internal Audits</u>	Lic Cond _____	<u>C</u>
Scope and frequency? Management controls? NOTES & REMARKS:		<i>AMC Field Safety Activity inspect year - 18 months complete audit (one week) AEHA every 3 yrs. complete audit (one week)</i>
3. <u>Training and Instructions to Employees</u>	Lic Cond _____	<u>C</u>
Training program, scope and frequency, retraining? Required tests administered; scores satisfactory? Instructions to workers? NOTES & REMARKS:	19.12	<i>Given by R.S.P. 2-3 times a year</i>
4. <u>Radiation Protection Procedures</u>	Lic Cond _____	<u>C</u>
Operating & emergency procedures implemented? Security? NOTES & REMARKS:	20.207	
5. <u>Materials, Facilities and Instruments</u>	Lic Cond _____	<u>C</u>
Authorized uses and quantities? Restricted areas, posting requirements? Survey instruments & dosimeters; operable, properly calibrated? NOTES & REMARKS:	20.203	
		<i>Inventory hands on every 6 months</i>

AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
<u>6. Receipt and Transfer of Materials</u>		
Procedures implemented, adequate?	20.205, 71.51 ✓	<u>C</u>
Transfer of byproduct material?	30.41 ✓	
Control of source material,	40.51, 40.64, 70.42, ✓ 70.51, 70.53, 70.54	
Labeling and packaging?	71.5, 49CFR 170-189 ✓	
Records of receipt, transfer, storage, survey, and monitoring?	30.51 ✓	
Procedures for pickup, receipt, monitoring of packages?	20.205(b)&(c) ✓	
NOTES & REMARKS:		

<u>7. Personnel Protection - External</u>		
Personnel monitoring control; minimize exposures, control of accumulated dose?	20.101, 201.102, 20.202	<u>C</u>
Surveys conducted, adequate?	20.201	
Records of monitoring, surveys, disposals?	20.401, Lic Cond _____	
Levels in unrestricted areas?	20.1, 20.105	
NOTES & REMARKS:		

<u>8. Personnel Protection - Internal</u>		
Airborne concentrations in restricted areas?	20.103	<u>C</u>
Exposure of minors?	20.104	
Posting of airborne radioactivity areas?	20.203	
Survey, monitoring bioassay requirements; records?	20.201, 20.401	
Leak tests of sealed sources?	Lic Cond _____	
NOTES & REMARKS:		

Biorep by Mr. Bolton of MIT few positives more significant

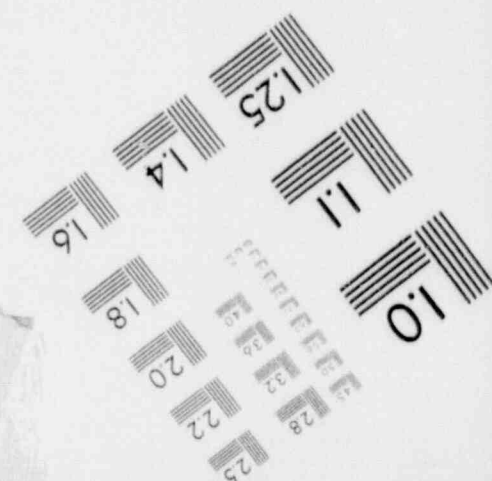
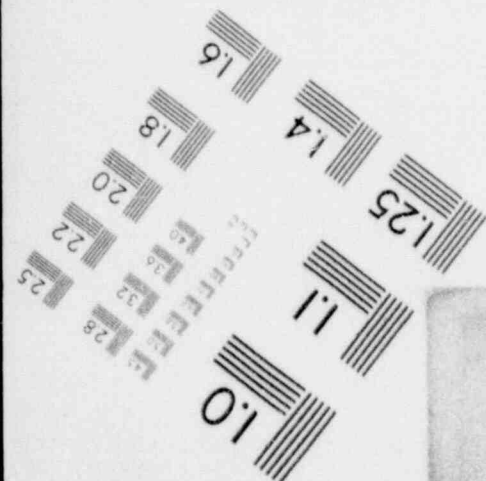
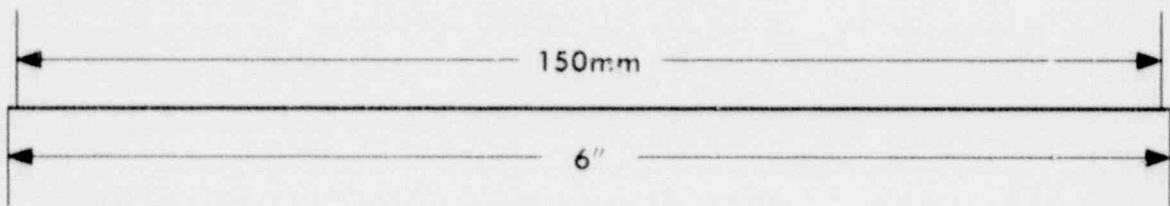
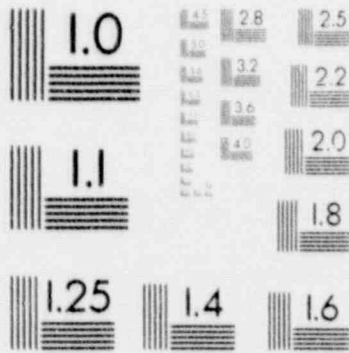
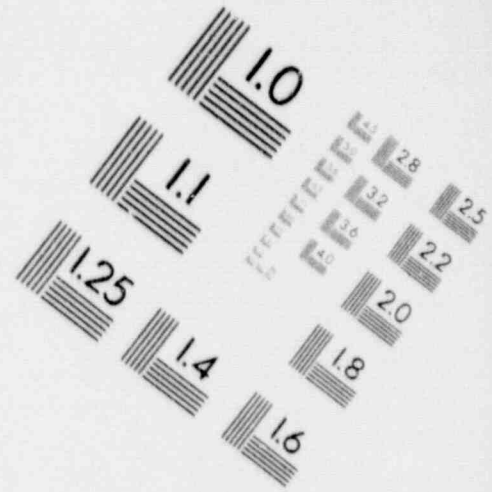
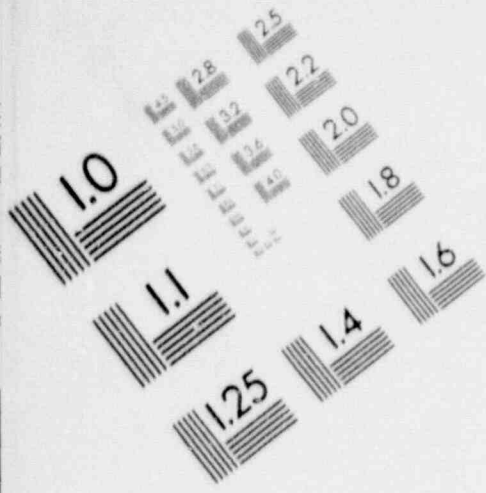
AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
<u>9. Effluent Control, Waste Disposal</u>		<u>C</u>
Release of effluents?	20.106	
Waste disposal, proper packaging for shipment?	20.301, 20.303, 20.304, 20.305	
Procedures, records?	20.401, Lic Cond _____	
NOTES & REMARKS:		
<u>10. Transportation</u>		<u>C</u>
Management controls, audits?		
Selection of packaging?	49 CFR 173.393-5; 10 CFR 71	
Preparation of packages for shipment? Filling and loading, closing, liquids?	49 CFR 172, 173 49 CFR 172.300	
Markings & labelling?	49 CFR 172.402, 403	
Monitoring?	49 CFR 173.393	
Shipping papers, loading and placarding of vehicles?	49 CFR 172.200	
Reports of incidents?	49 CFR 171.15, 171.16	
Training program?		
Examination of packages?		
NOTES & REMARKS:		
<u>11. Notifications and Reports</u>		<u>C</u>
To individuals?	19.13	
Overexposures, excessive levels and concentrations, incidents?	20.403, 20.405	
Personnel exposures and monitoring, termination reports?	20.407, 20.408	
Theft or loss of licensed materials?	20.402	
NOTES & REMARKS:		

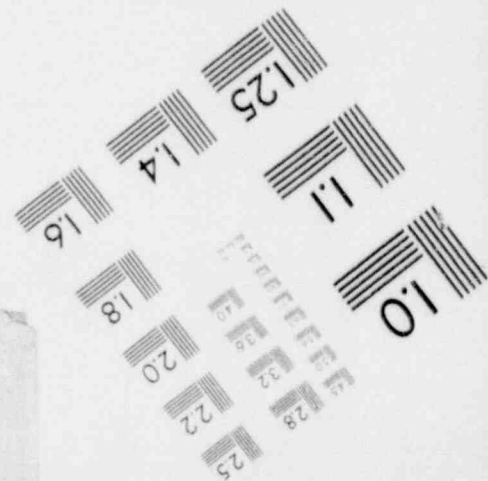
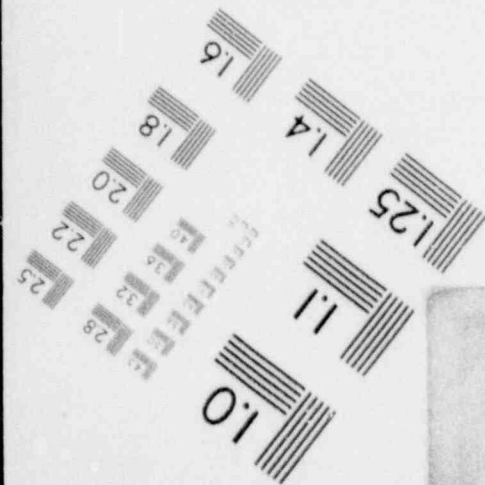
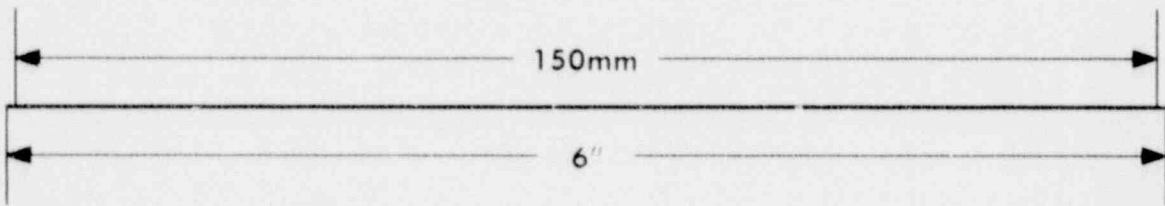
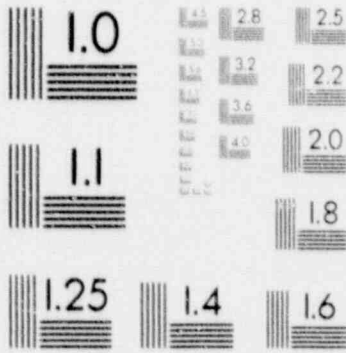
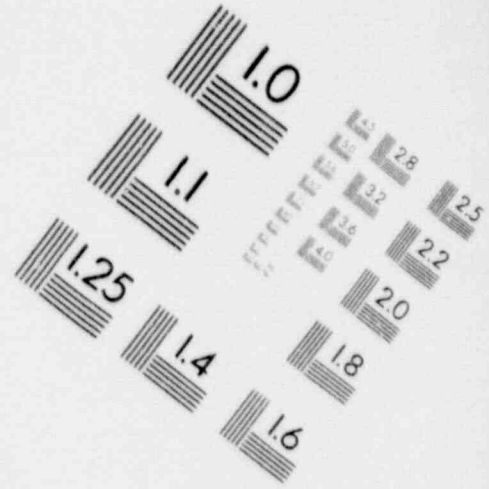
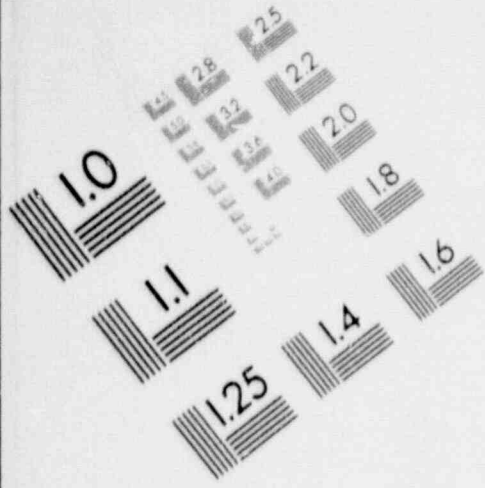
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IMAGE EVALUATION TEST TARGET (MT-3)



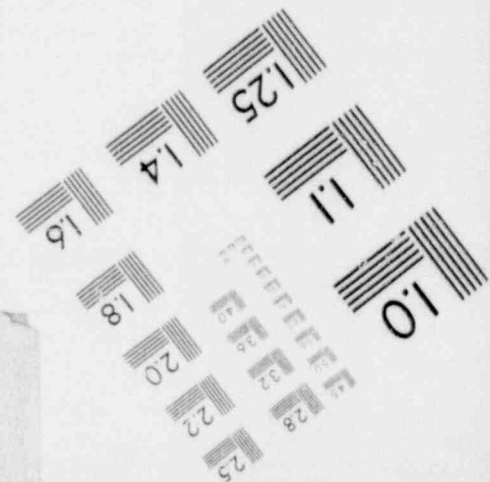
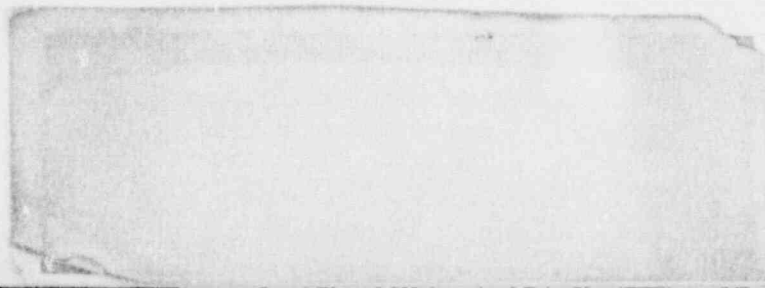
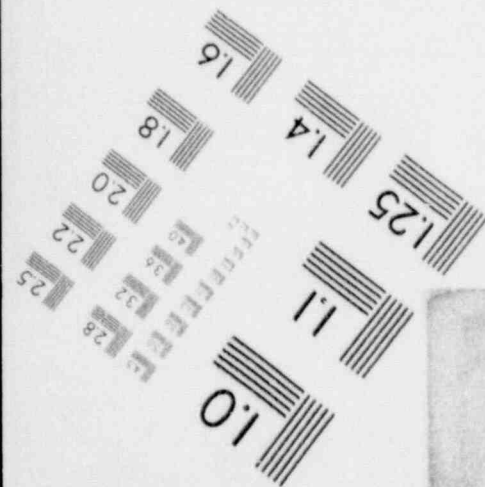
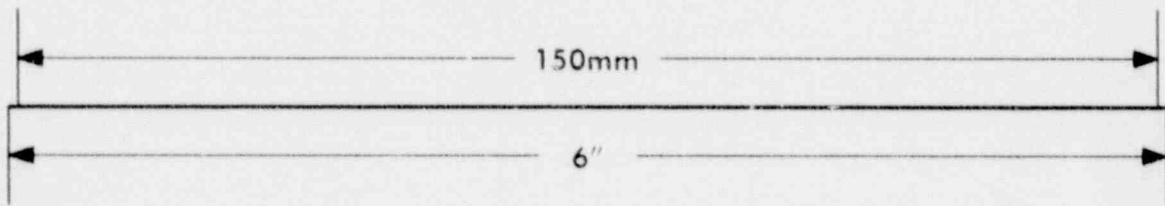
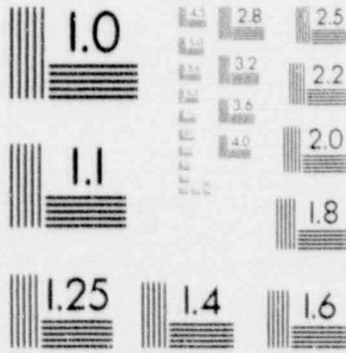
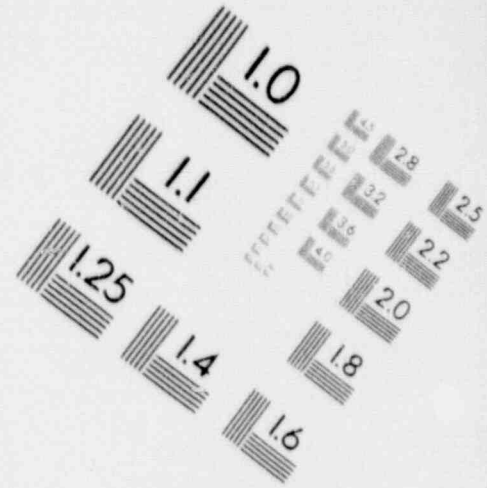
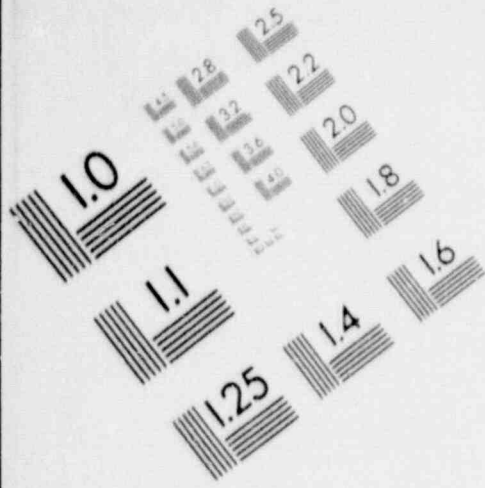
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IMAGE EVALUATION TEST TARGET (MT-3)



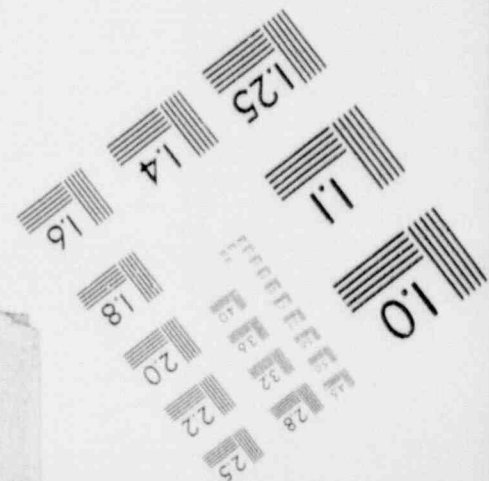
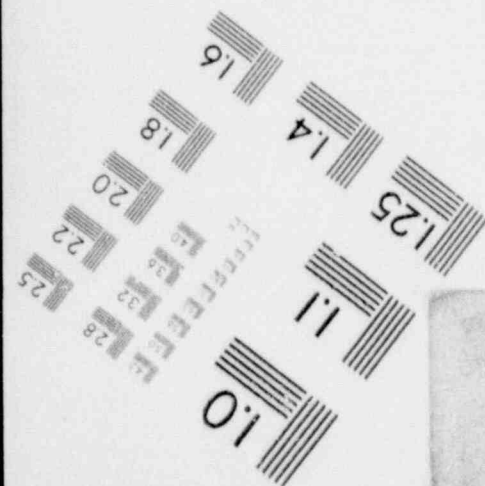
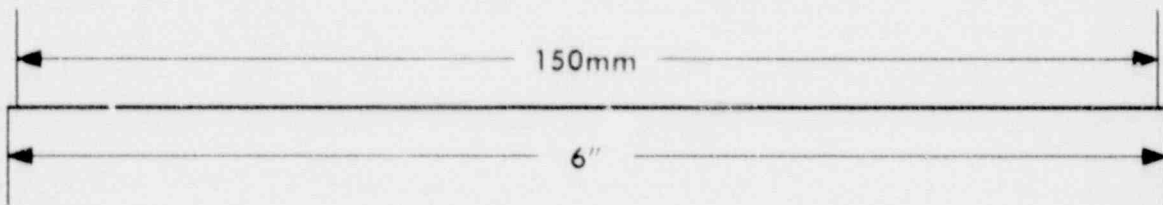
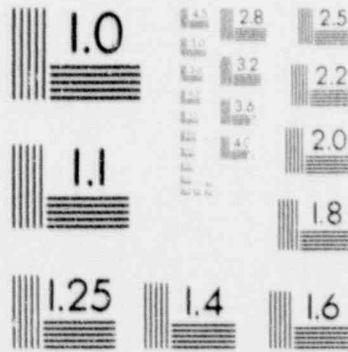
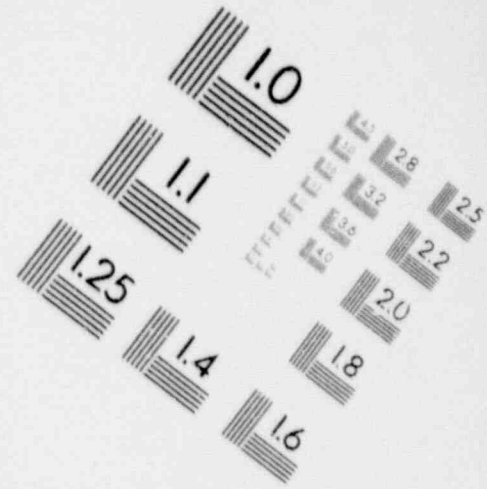
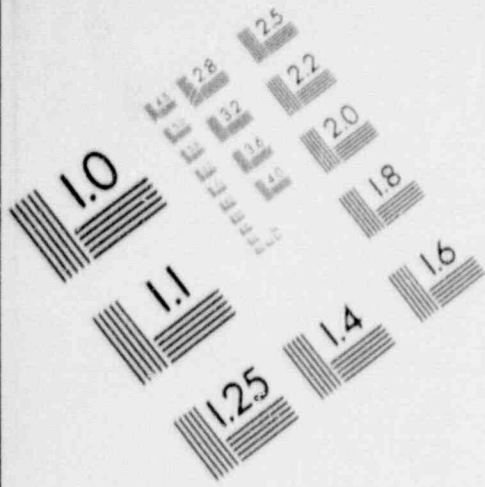
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IMAGE EVALUATION TEST TARGET (MT-3)



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IMAGE EVALUATION TEST TARGET (MT-3)



AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
12. <u>Posting of Notices</u>		<u>C</u>
Part 20, license & documents, procedures, notice of violations?	19.11(a)	
KRC-37	19.11(c)	
NOTES & REMARKS:		
13. <u>Environmental Monitoring Program</u>	Lic Cond _____	<u>N/A</u>
Implementation of program, scope and frequency as required?		
Records maintained, reviewed by management?		
NOTES & REMARKS:		
14. <u>Emergency Preparedness</u>	Lic Cond _____	
Procedures available for incidents and accidents?		
Training for personnel; coordination with supporting groups and agencies?		
NOTES & REMARKS:		<i>Contacted Fire Department (local) Appointed decontamination team No hospital contacts</i>
15. <u>Other License Conditions</u>		

NOTES & REMARKS:

INSPECTION REPORT NUMBER _____

Page ____ of ____

777108 - Industrial - Academic

AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
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16. Confirmatory Measurements

C

Licensee's surveys verified on sampling basis? 201.105, 20.201

NOTES & REMARKS:

In agreement with license measurements.

NRC Instrument: # 006305 Calibration due date: 5-85

17. Independent Inspection Effort

C

*Surveys in work place + unrestricted areas.
Discussions with employees.*

NOTES & REMARKS:

INSPECTION REPORT NUMBER _____

Page _____ of _____

APPENDIX A - DOCUMENTATION OF NONCOMPLIANCE

Licensee: _____

License No: _____

Reference	Basis for noncompliance
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	

APPENDIX B - LICENSEE ACTION ON PREVIOUS INSPECTION FINDINGS

Licensee: _____

License No: _____

Identification and summary of action taken	Status
--	--------

Report No: _____	Type n/c: _____	Describe: _____
Action taken:		OPEN
		CLOSED

Report No: _____	Type n/c: _____	Describe: _____
Action taken:		OPEN
		CLOSED

Report No: _____	Type n/c: _____	Describe: _____
Action taken:		OPEN
		CLOSED

Report No: _____	Type n/c: _____	Describe: _____
Action taken:		OPEN
		CLOSED

Report No: _____	Type n/c: _____	Describe: _____
Action taken:		OPEN
		CLOSED

Report No: _____	Type n/c: _____	Describe: _____
Action taken:		OPEN
		CLOSED

INSPECTION REPORT NUMBER _____

Page _____ of _____

APPENDIX C - SUPPLEMENTARY INFORMATION

Licensee: _____ License No: _____

-
- | | |
|---|---|
| <input type="checkbox"/> Uncorrected/repeated noncompliance | <input type="checkbox"/> Unresolved items |
| <input type="checkbox"/> Unusual recurrence, conditions, etc | <input type="checkbox"/> Inspector's comments |
| <input type="checkbox"/> Basis for change of Category or Priority | |

Currently majority of work is with depleted uranium
under the SUB license.

Modifying the reactor building for use in neutron
radiography with sealed sources.

LICENSE NO: 70-01010-04

DOCKET NO. (s) 030-04593
070-02253
070-00263

PAGE _____ OF _____

ATTACH

- Appendix A
- Appendix B
- Appendix C
- None

INSPECTION REPORT NO. 88-001

DEPARTMENT OF ARMY, MATERIALS TECHNOLOGY LABORATORY

ARSENAL STREET

WATERTOWN, MA 02172-0001

LICENSEE CONTACT: PETER CORNETTA, RPO

Telephone No: 617-923-5225

LICENSE NO: 20-01010-04

CATEGORY EIA PRIORITY: 2

SUB-238

CATEGORY E PRIORITY: 3

SNM-244

CATEGORY A PRIORITY: 2

INSPECTION DATE (s): 4/28/88

- TYPE OF INSPECTION:
- SPECIAL
 - ANNOUNCED
 - ROUTINE
 - UNANNOUNCED
 - DAYSHIFT
 - OTHER

SUMMARY OF FINDINGS AND ACTION

- NO NONCOMPLIANCE, CLEAR 591 ISSUED
- NO NONCOMPLIANCE, LETTER
- NONCOMPLIANCE, APPENDIX A

- ACTION ON PREVIOUS NONCOMPLIANCE, APPENDIX B
- NONCOMPLIANCE, 591 ISSUED
- SUPPLEMENTAL INFO, APPENDIX C

RECOMMENDATIONS
SEE BASIS IN APPENDIX C

CHANGE CATEGORY TO: _____

NEXT INSPECTION DATE: 4/90

CHANGE PRIORITY TO: _____

PERSONS CONTACTED

LUCAS DEMETROULAKOS, ASST. RPO

AL MAZIALE, MACHINE OPERATOR

FRANCIS HANRAHAN, FURNACE OPERATOR

JOHN J. ANTAL, RESEARCH PHYSICIST

AL MAROTTA, RESEARCH PHYSICIST

ROBERT CHASE, ACTING CHIEF
HAZARDOUS MATERIALS & SAFETY OFFICE

INSPECTOR: [Signature]

APPROVED: [Signature]

6/22/88

A/6

INSPECTION PLAN AND REPORT NUMBER _____ Page _____ of _____

Plan Approved: _____ Date: _____

Licensee: _____ License No. _____

Inspection Items	Scheduled for Inspection	Post Inspection Status	Module No.
Management Meeting - Entrance and Exit Interviews (Required)			30703B
Program Requirements, MC 2850 (Required)			77710B
Followup on Noncompliance and Deviations			92702B
Independent Inspection Effort (Required)			92706B
Transportation			86740B

AREAS INSPECTED AND FINDINGS

Licensee: DEPT OF THE ARMY License No: 20-01010-04 Amendment No: 20-21725-02

INSPECTION ITEMS	CRITERIA	FINDING
<p>1. <u>Organization</u></p> <p>Management organization? Radiation Protection Organization? Scope of Operation? NOTES & REMARKS:</p>	<p>Lic Cond _____</p> <p><u>20-01010-04</u> → ~ 3 G. OF CE-25Z USED TO "RADIOGRAPH" MATERIALS</p> <p><u>SNM</u> → POSSESS ENRICHED U FSSION CHAMBER STRIPES SOURCES AND PuBe SEALED SOURCES</p> <p><u>SUB</u> → PROCESS DU TO MANUFACTURE PROJECTILES (~ 400 lb/WEEK)</p>	<p><u>C</u></p>
<p>2. <u>Licensee Internal Audits</u></p> <p>Scope and frequency? Management controls? NOTES & REMARKS:</p>	<p>Lic Cond _____</p> <p>ALL PERSONNEL INTERVIEWED WERE FAMILIAR WITH OPERATING PROCEDURES + RAD SAFETY PROCEDURES</p>	<p><u>C</u></p>
<p>3. <u>Training and Instructions to Employees</u></p> <p>Training program, scope and frequency, retraining? Required tests administered; scores satisfactory? Instructions to workers? NOTES & REMARKS:</p>	<p>Lic Cond _____</p> <p>19.12</p> <p>RAD. SAFETY OFFICE PERFORMS ROUTINE SURVEYS</p>	<p><u>C</u></p>
<p>4. <u>Radiation Protection Procedures</u></p> <p>Operating & emergency procedures implemented? Security? NOTES & REMARKS:</p>	<p>Lic Cond _____</p> <p>20.207</p> <p>PERSONNEL MONITORING PERFORMED WHEN LEAVING RESTRICTED/CONTAMINATED AREAS</p>	<p><u>C</u></p>
<p>5. <u>Materials, Facilities and Instruments</u></p> <p>Authorized uses and quantities? Restricted areas, posting requirements? Survey instruments & dosimeters; operable, properly calibrated? NOTES & REMARKS:</p>	<p>Lic Cond _____</p> <p>20.203</p>	<p><u>C</u></p>

AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
<u>C</u>		
6. <u>Receipt and Transfer of Materials</u>		
Procedures implemented, adequate?	20.205, 71.51	DU IS TRANSFERRED TO AUTHORIZED USERS
Transfer of byproduct material?	30.41	
Control of source material,	40.51, 40.64, 70.42, 70.51, 70.53, 70.54	
Labeling and packaging?	71.5, 49CFR 170-109	
Records of receipt, transfer, storage, survey, and monitoring?	30.51	
Procedures for pickup, receipt, monitoring of packages?	20.205(b)&(c)	
NOTES & REMARKS:		
<u>NC</u>		
7. <u>Personnel Protection - External</u>		
Personnel monitoring control; minimize exposures, control of accumulated dose?	20.101, 201.102, 20.202	HRA IN CE-252
Surveys conducted, adequate?	20.201	"RADIOGRAPHY" FACILITY
Records of monitoring, surveys, disposals?	20.401, Lic Cond _____	NOT CONTROLLED DURING
Levels in unrestricted areas?	20.1, 20.105	PERIODS OF ABSENCE OF OPERATOR
NOTES & REMARKS: PERSONNEL - NOT POSTED A HRA (SEE APP C) - LEFT UNATTENDED FOR ~ 15-30 MINUTES AT VARIOUS TIMES.		
* NO SURVEY DONE		
<u>C</u>		
8. <u>Personnel Protection - Internal</u>		
Airborne concentrations in restricted areas?	20.103	HIGHEST DU INTAKE MEASURED
Exposure of minors?	20.104	AT 18ug/L IN URINE
Posting of airborne radioactivity areas?	20.203	OF EMPLOYEE OPERATING IN THE
Survey, monitoring bioassay requirements; records?	20.201, 20.401	- DERIVED INVESTIGATIONAL
Leak tests of sealed sources?	Lic Cond _____	
NOTES & REMARKS: LEVEL IS 50ug/L IN ACCORDANCE w/ LICENSE BACK-UP - SEMI-ANNUAL URINE ANALYSIS PERFORMED		

AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
<u>C</u>		
9. <u>Effluent Control, Waste Disposal</u>		
Release of effluents?	20.106	AIR SAMPLING PERFORMED AT EFFLUENTS OF
Waste disposal, proper packaging for shipment:	20.301, 20.303, 20.304, 20.305	
Procedures, records?	20.401, Lic Cond _____	
NOTES & REMARKS: DU INCINERATION, MACHINING AND FORGING. INCINERATION EFFL SCRUBBED WITH H ₂ O THEN HEPA FILTERED. AVG. CONCENTRATIONS ~ 10 ⁻⁶ uCi		
<u>C</u>		
10. <u>Transportation</u>		
Management controls, audits?		SHIPPING CONTAINERS PROPERLY LABELLED
Selection of packaging?	49 CFR 173.393-5, 10 CFR 71	
Preparation of packages for shipment? Filling and loading, closing, liquids?	49 CFR 172.173 49 CFR 172.300	
Markings & labelling?	49 CFR 172.402, 403	
Monitoring?	49 CFR 173.393	
Shipping papers, loading and placarding of vehicles?	49 CFR 172.200	
Reports of incidents?	49 CFR 171.15, 171.16	
Training program?		
Examination of packages?		
NOTES & REMARKS:		
<u>C</u>		
11. <u>Notifications and Reports</u>		
To individuals?	19.13	
Overexposures, excessive levels and concentrations, incidents?	20.403, 20.405	
Personnel exposures and monitoring, termination reports?	20.407, 20.408	
Theft or loss of licensed materials?	20.402	
NOTES & REMARKS:		



AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
-----------------	----------	---------

12. Posting of Notices

Part 20, license & documents, procedures, notice of violations?

19.11(a)

C

NRC-37

19.11(c)

NOTES & REMARKS:

13. Environmental Monitoring Program

Lic Cond _____

Implementation of program, scope and frequency as required?

Records maintained, reviewed by management?

NOTES & REMARKS:

14. Emergency Preparedness

Lic Cond _____

Procedures available for incidents and accidents?

Training for personnel; coordination with supporting groups and agencies?

NOTES & REMARKS:

15. Other License Conditions

NOTES & REMARKS:

INSPECTION REPORT NUMBER _____

Page ____ of ____

777108 - Industrial - Academic

AREAS INSPECTED AND FINDINGS

Licensee: _____ License No: _____ Amendment No: _____

INSPECTION ITEM	CRITERIA	FINDING
-----------------	----------	---------

16. Confirmatory Measurements

Licensee's surveys verified on sampling basis?	201.105, 20.201	_____
--	-----------------	-------

NOTES & REMARKS:

NRC Instrument: _____ Calibration due date: _____

17. Independent Inspection Effort

NOTES & REMARKS:

INSPECTION REPORT NUMBER 88-001

Page _____ of _____

APPENDIX A - DOCUMENTATION OF NONCOMPLIANCE

Licensee: DEPARTMENT OF THE ARMY
WATERBURY, MA

License No: 20-

Reference	Basis for noncompliance
Report item <u>7</u> 10 CFR <u>20.203</u> Lic Cond _____ Type n/c _____	<u>FAILURE TO CONTROL HRA; LEFT UNATTENDED FOR 15-30 MINUTES AT VARIOUS TIMES</u>
Report item <u>7</u> 10 CFR <u>20.203</u> Lic Cond _____ Type n/c _____	<u>FAILURE TO POST HRA - WAS POSTED AS RAD. AREA AND EQUIPPED WITH VISIBLE AND AUDIBLE ALARMS</u>
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	
Report item _____ 10 CFR _____ Lic Cond _____ Type n/c _____	

APPENDIX B - LICENSEE ACTION ON PREVIOUS INSPECTION FINDINGS

Licensee: _____

License No: _____

Identification and summary of action taken	Status
--	--------

Report No: _____	Type n/c: _____	Describe: _____
------------------	-----------------	-----------------

Action taken:	OPEN CLOSED
---------------	----------------

Report No: _____	Type n/c: _____	Describe: _____
------------------	-----------------	-----------------

Action taken:	OPEN CLOSED
---------------	----------------

Report No: _____	Type n/c: _____	Describe: _____
------------------	-----------------	-----------------

Action taken:	OPEN CLOSED
---------------	----------------

Report No: _____	Type n/c: _____	Describe: _____
------------------	-----------------	-----------------

Action taken:	OPEN CLOSED
---------------	----------------

Report No: _____	Type n/c: _____	Describe: _____
------------------	-----------------	-----------------

Action taken:	OPEN CLOSED
---------------	----------------

Report No: _____	Type n/c: _____	Describe: _____
------------------	-----------------	-----------------

Action taken:	OPEN CLOSED
---------------	----------------

INSPECTION REPORT NUMBER

88-001

Page

of

APPENDIX C - SUPPLEMENTARY INFORMATION

Licensee:

DEPT. OF THE ARMY

License No:

20-01010-04

- Uncorrected/repeated noncompliance
 Unusual occurrence, conditions, etc
 Basis for change of Category or Priority

- Disresolved items
 Inspector's comments

- SURVEY BY LICENSEE w/ NEUTRON BALL INDICATE A
200 mR/hr AT 18" FROM PARAFIN MODERATOR
IN NEUTRON MATERIALS EXAMINATION CELL FROM
23 Ci Cf-252 SOURCE (TWO SOURCES = 1.7 + 1.3 Ci)
RESEARCH PHYSICIST STATED THAT THE NEUTRON FLUX
IS APPROX. 1×10^4 n/cm²-SEC CONSISTING OF
APPROX. 90% THERMAL NEUTRONS

06/27/88

U.S. NUCLEAR REGULATORY COMMISSION
REGION I
OPEN ITEMS TRACKING SYSTEM

DOCKET NUMBER: 70-00263

REPORT NUMBER	STATUS	DATE OPEN	DATE CLOSED	REVIEWER NAME	OPTION	CLOSING REFER
1 BB-001 ITEM: CLEAR	CLOSED	04/26/88	04/26/88	JENSEN	VIOL	88-001

A/7



DEPARTMENT OF THE ARMY

U.S. ARMY LABORATORY COMMAND
MATERIALS TECHNOLOGY LABORATORY
WATERTOWN, MASSACHUSETTS 02172-0001

40-2253

REPLY TO
ATTENTION OF

SLCMT-DHS (385)

6 May 1988

MEMORANDUM THUR:

Commander, U.S. Army LABCOM, ATTN: AMSLC-50 (Borisky), 2800 Powder Mill Road, Adelphi, MD 20783-1145.

Commander, U.S. Army Material Command ATTN: AMCSF-P (Elker), 5001 Eisenhower Avenue, Alexandria, VA 22333-0001.

FOR: U.S. Nuclear Regulatory Commission, Region I, ATTN: John T. Jensen, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, PA 19406.

SUBJECT: Urinalysis files and information concerning for the years 1985 to the present, enclusive.

1. At your request we have searched available files for bioassay records as far back as 1985. Enclosure (1) includes urinalysis results for samples submitted in March of 1987. It is my understanding that during the period of time from 1985 through March of 1987, very little work involving possible airborne concentrations of depleted Uranium was undertaken. Enclosure (2) showing prior bioassay results is, we believe, indicative of past airborne uranium exposure levels.
2. Information provided to the NRC, subsequent to our license renewal application (SUB-238) of 29 October 1985 contains a report dated 16 December 1985 concerning various technical aspects relating to the urinalysis program here at the Materials Technology Laboratory. In this report it is stated that bioassays will be performed semi-annually with a Derived Investigation Level of 50 mgU/liter.
3. Information concerning the assignment of a new Radiation Protection Officer and an assistant was forwarded in February of this year.
4. If you have any further questions, please contact Mr. Peter Cornetta, our Radiation Protection Officer at (617) 923-5225.

Enc1

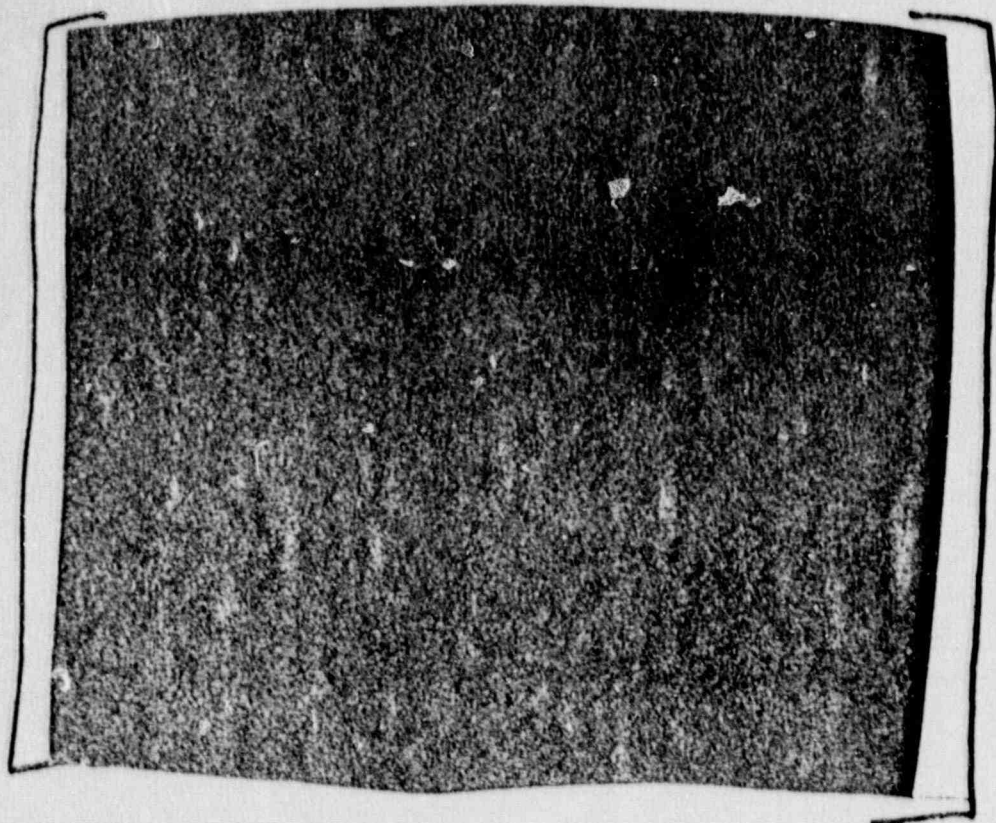
ROBERT E. CHASE
Acting Chief
Hazards Management & Safety Office

Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions 6
FOIA- 89-476

B11

PERSONNEL URINALYSIS RESULTS

mgU/l



BOLTON & GALANEK, INC.

Consultants - Radiochemistry & Health Physics

P.O. Box 366 M.I.T. Branch

Boston, MA 02139

Tel. (617) 253 2180

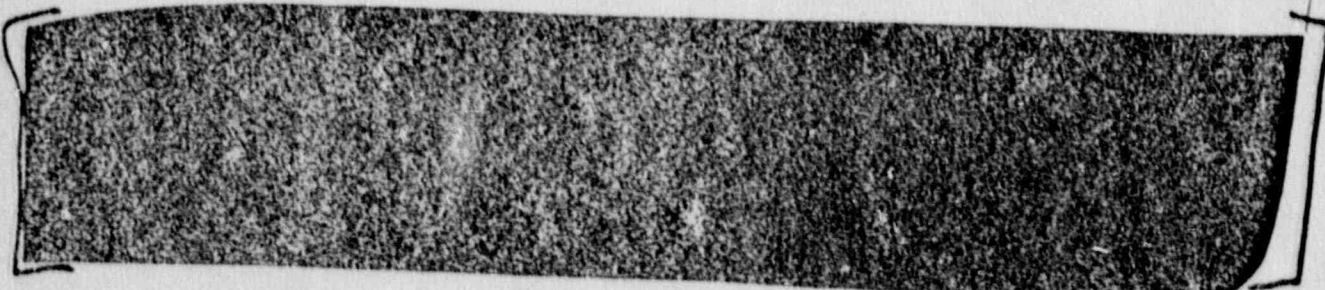
March 31, 1987

US Army Materials Technology Laboratory
Arsenal Street
Watertown, MA 02172

Attention: Mr. Charles E. Dady
Bldg. 292

The following are the results obtained from the urine specimens
submitted to this laboratory for uranium analysis:

<u>Name</u>	<u>Social Security #</u>	<u>Date</u>	<u>Uranium results (ug/liter)</u>
-------------	--------------------------	-------------	-----------------------------------



If you have any questions concerning these results, please give us a call.

Murray M. Bolton Jr.
Murray M. Bolton Jr.
Radiochemist

Mitchell S. Galanek
Mitchell S. Galanek
Health Physicist

SLOMT-DHS (385)

SUBJECT: Urinalysis and Stack Effluent Data for the years 1986 and 1987.

4. Presently all operations involving licensed materials are being monitored in accordance with NRC regulations.

Edward S. Wright

Dr. Edward S. Wright
Director, MTL

Encl.

19 JUN 1987

Docket No. 070-00263

License No. SNM-244

Department of the Army
Materials Technology Laboratory
ATTN: Mr. David Griffis
Radiation Safety Officer
Arsenal Street
Watertown, Massachusetts 02172-0001

Gentlemen:

Subject: Inquiry No. 87-001

This refers to a telephone inquiry by Mr. Steven Courtemanche of this office with Mr. Charles Dady of your staff on June 11, 1987. This inquiry concerned activities authorized by License No. SNM-244, as they relate to the pending need for renewal of your license.

From this discussion, it is our understanding that a renewal application has been sent in to the U.S. Material Command and will be forwarded to this office.

If our understandings are incorrect, please inform us in writing.

In accordance with Section 2.790 of the NRC's Rules of Practice, Part 2, Title 10, Code of Federal Regulations, a copy of this letter will be placed in the Public Document Room. No reply to this letter is required; however, should you have any questions concerning this inquiry, we will be pleased to discuss them with you.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
John D. Kinneman

John D. Kinneman, Chief
Nuclear Materials Safety Section A
Division of Radiation Safety and
Safeguards

cc:
Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
Commonwealth of Massachusetts

OFFICIAL RECORD COPY

INQ DEPT OF ARMY - 0001.0.0
05/11/87

RETURN ORIGINAL TO
REGION I

8706300950 (2pp)

A/S

IE:07

19 JUN 1987

bcc:
Region I Docket Room (w/concurrences)

DRSS:RI
Courtemanche/k1

6/17/87


DRSS:RI
Kinneman

6/17/87

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INQ DEPT OF ARMY - 0002.0.0
05/11/87

06 SEP 1988

Docket No. 030-04593
040-02253
070-00263

License No. 20-01010-04
SUB-238
SNM-244

Department of the Army
Materials Technology Laboratory
ATTN: Edward Wright
Director
Arsenal Street
Watertown, Massachusetts 02172-0001

Gentlemen:

Subject: Routine Inspection No. 030-04593/88-01

This refers to your letters dated May 27, 1988 and July 7, 1988, in response to our letter dated June 30, 1988.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
John D. Kinneman

John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

cc:
Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
Commonwealth of Massachusetts
J. Jensen, RI

8809130123 (2/8)

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RL DEPT OF THE ARMY - 0001.D.0
08/16/88

RETURN ORIGINAL TO
REGION I /

A/g

IF-07


06 SEP 1988

Department of the Army

2

bcc:
Region I Docket Room (w/concurrences)

RI:DRSS
J. Jensen/bc
08/18/88


RI:DRSS
J. Kinneman
08/ /88

OFFICIAL RECORD COPY

RL DEPT OF THE ARMY - 0002.0.0
08/16/88

SAFETY INSPECTION

1. LICENSEE

Department of the Army
AMARC
Arsenal Street
Watertown, Massachusetts 02172

2. REGIONAL OFFICE

USNRC Region 1
631 Park Avenue
King of Prussia 19406

3. DOCKET NUMBER(S)

030-04593; 070-00203
040-02253

4. LICENSE NUMBER(S)

20-01010-04, SMA-244
SUB-238

5. DATE OF INSPECTION

March 5, 1985

Licenses:

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission's (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The findings as a result of this inspection are as follows:

- 1. Within the scope of this inspection, no violations were observed.
- 2. The inspector also verified the steps you have taken to correct the violations identified during the last inspection. We have no further questions on those actions at this time.
- 3. During this inspection certain of your activities, as checked below, were in violation of NRC requirements.
THIS IS A NOTICE OF VIOLATION which is required to be posted in accordance with 10 CFR 19.11.
 - A. _____ was not properly posted to indicate the presence of a _____ 10 CFR 20.203(b), (c), (d), (e) or 34.42.
 - B. Containers located in _____ were not properly labeled to indicate the presence of radioactive material. 10 CFR 20.203(f)(1), or (f)(2).
 - C. _____ of sealed sources were not performed at the proper frequencies. 10 CFR _____ License Condition Number _____
 - D. Records of _____ were not properly maintained. 10 CFR _____ or License Condition Number _____
 - E. Documents were not properly posted or otherwise made available. 10 CFR 19.11.
 - F. Reports or notifications of _____ were not made in accordance with 10 CFR _____ or License Condition Number _____
 - H. _____
 - I. _____
 - J. _____
 - K. _____

I hereby state that within 30 days the actions described by me to the inspector will be taken to correct the violations identified in the items checked above. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201. No further response will be submitted unless required by the NRC.

<i>William E. Boyer</i>	3/5/85	<i>Claude A. Rowe</i>	3/5/85
SIGNATURE - LICENSEE	DATE	SIGNATURE - NRC INSPECTOR	DATE

8503200324 (lp)

30 JUN 1988

Docket Nos. 030-04593

040-02253

070-00263

License Nos. 20-01010-04

SUB-238

SNM-244 ✓

Department of the Army
Materials Technology Laboratory
ATTN: Edward Wright
Director
Arsenal Street
Watertown, Massachusetts 02172-0001

Gentlemen:

Subject: Routine Inspection No. 88-001

On April 26, 1988 John T. Jensen of this office conducted a routine safety inspection at the above address of activities authorized by the above listed NRC licenses. The inspection was an examination of your licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions. The inspection consisted of observations by the inspector, interviews with personnel, and a selective examination of representative records. The findings of the inspection were discussed with Robert Chase and Lucas Demetroulakos at the conclusion of the inspection.

Based on the results of this inspection, it appears that your activities were not conducted in full compliance with NRC requirements. A Notice of Violation is enclosed as Appendix A and categorizes each violation by severity level in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (Enforcement Policy). You are required to respond to this letter and in preparing your response, you should follow the instructions in Appendix A.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and your reply will be placed in the Public Document Room.

The responses directed by this letter and the 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.

8807070334

(288)

OFFICIAL RECORD COPY

ML DL DEPT OF ARMY - 0001.0.0
06/24/88

RETURN ORIGINAL TO
REGION I

A/8

IE-07

30 JUN 1988

2

Department of the Army

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
John D. Kinneman

John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

cc:
Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
Commonwealth of Massachusetts
Alfred Broz, Radiation Safety Officer
Peter Cornetta, Acting Radiation Safety Officer

bcc:
Region I Docket Room (w/concurrences)
Management Assistant, DRMA
J. Jensen, RI

JJ RI:DRSS
J. Jensen/bc
~~05/1/88~~
06/27/88

JDK
RI:DRSS
Kinneman
06/27/88

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ML DL DEPT OF ARMY - 0002.0.0
06/24/88

APPENDIX A

NOTICE OF VIOLATION

Department of the Army
Materials Technology Laboratory
Watertown, Massachusetts 02172-0001

Docket No. 030-04593
License No. 20-01010-04

As a result of the inspection conducted on April 26, 1988, and in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (Enforcement Policy) (1986), the following violations were identified:

- A. 10 CFR 20.203 requires that, in the absence of certain control devices, each entrance or access point to a high radiation area be maintained locked except during periods when access to the area is required, with positive control over each individual entry.

Contrary to the above, as of April 26, 1988, in the absence of the specified control devices, the entrance to the high radiation area in the containment building was not locked or attended to prevent unauthorized entry during periods of 15 to 30 minutes when individual attending the area left the containment building.

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

- B. 10 CFR 20.203 requires that each high radiation area be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words: "Caution - High Radiation Area".

Contrary to the above, as of April 26, 1988, the high radiation area in the containment building with radiation levels of approximately 200 milli-rem per hour from a three curie californium-252 source was inappropriately posted with signs bearing the radiation caution symbol and the words: "Caution - Radiation Area".

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

Pursuant to the provisions of 10 CFR 2.201, Department of the Army is hereby required to submit to this office within thirty days of the date of the letter which transmitted this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending this response time.

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(4)

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ML DL DEPT OF ARMY - 0003.0.0
06/24/88