MEDICAL

LICENSE FILE NO: _____

ATTACHED

DOCKET No. (s) 030-20020 [X] Appendix A [ ] Appendix B [ ] Appendix C

INSPECTION REPORT NO. 90-001 LICENSEE CONTACT: Ron Amolong, RSO

Name: Dana-Farber Cancer Institute TELEPHONE NO.: 617-732-3487

Address: 44 Binney Street
Boston, Massachusetts

LICENSE NO: 20-19761-02 PRIORITY: 1 Program Code: 2110

PRIORITY: _____ Program Code: _____

PRIORITY: _____ Program Code: _____

INSPECTION DATE (s): 8-16-90 TYPE OF INSPECTION: [ ] SPECIAL [ ] ANNOUNCED

[■] ROUTINE [■] UNANNOUNCED

[■] DAYSHIFT [ ] OTHER

SUMMARY OF FINDINGS AND ACTION

[ ] NO NONCOMPLIANCE, CLEAR 591 ISSUED

[X] ACTION ON PREVIOUS NONCOMPLIANCE, APPENDIX B

[ ] NO NONCOMPLIANCE, LETTER

[ ] NONCOMPLIANCE, 591 ISSUED

[■] NONCOMPLIANCE, APPENDIX A

[ ] SUPPLEMENTAL INFO, APPENDIX C

RECOMMENDATIONS
SEE APPENDIX C

[ ] CHANGE PROGRAM CODE

[ ] CHANGE PRIORITY TO: _____

[■] NEXT INSPECTION DATE: 8/91

PERSONS CONTACTED

- Ron Amolong, RSO
- Dr Ernest, NM physician Brigham & Women's
- Frances Reech, CNMT
- * Steve Alford, proposed RSO
- Marilyn Grant, NMT
- Milo Janicek
- * present at exit meeting

Pedro Munoz, Housekeeping
Mark Bigonia, Harvard Env. Health & Safety
Rick Parker, Harvard "
John Petit, Administrator
William Colette, Jr. Engineer
Lily Gino Duarte, Environmental Health & Safety Specialist

INSPECTOR: Jodi Reech Johnston 9/7/90

APPROVED: Mary A Gabler 9/12/90
[signature]

REGION I Form 198-C
(June '88)

9301110304 920520
PDR FOIA
STOLL92-58 PDR

9301

D/111

License No. [illegible]

[illegible]

[illegible]
[L/W]
Remarks. [illegible]

b. Use supervised by authorized individuals. ( ) Yes ( ) No [35.22(b)(2)]
Remarks.
Nuclear Medicine - [illegible] licensee for medical use, at time of inspection the license was on [illegible] Program [illegible] Nuclear Medicine, have been looking for staff. Tim [illegible] [illegible]

c. Radiation Safety Committee meets at quarterly intervals.
(✓) Yes ( ) No

(1) Membership in accordance with 35.22(a)(1) ( ) Yes ( ) No
Remarks.

(2) Record of Committee meetings. ( ) Yes ( ) No [35.22(a)(4)]
Remarks.

(3) Consultants. (✓) Yes ( ) No
Remarks.
[illegible]

e. Licensee uses the services of a visiting authorized user.
( ) Yes (✓) No [35.27(a)]

(1) Licensee has a copy of visiting authorized user license.
( ) Yes ( ) No [35.27(a)(2)]

(2) License has records (maintained for 2 years) of visiting authorized users last visit. ( ) Yes ( ) No [35.37(c)] N/A

f. License utilizes mobile nuclear medicine services.
( ) Yes (✓) No [35.29]

g. Licensee delegates RSO sufficient authority, organizational freedom, and management prerogative. (✓) Yes ( ) No

h. Appropriate review by Committee in accordance with 35.22(b).
( ) Yes ( ) No

2. INSPECTION HISTORY

Violations or deviations noted during last inspection conducted on [illegible]
(X) Yes ( ) No.

Response letter dated [illegible]
(See Appendix B for details)

3. SCOPE OF PROGRAM

Briefly list medical procedures and their frequency.

NM opens at 7AM

[illegible]

4. INTERNAL AUDITS OR INSPECTIONS

a. Required by license condition. ( ) Yes ( ) No ( ) N/A

b. Investigations or inspections conducted. ( ) Yes (✓) No
[35.21(a) and (b)(2)]
Remarks. annual audit - not conducted for 1989

[illegible]

c. Records maintained. ( ) Yes ( ) No [35.21(b)(2)(xi)]
Remarks.

5. TRAINING, RETRAINING, AND INSTRUCTION TO WORKERS

a. License referenced training program.

(1) Training program implemented. ( ) Yes ( ) No
Remarks.
NM staff receives initial training by Harvard Group (a three course) also have opportunities to other society sponsored conferences. No specific RS refresher training
Lab personnel initially trained by Harvard
Housekeeping - not formally trained. Interviews w/ housekeeping staff including the staff supervisor/trainer indicated need for additional training. Language barrier mentioned (multilingual training and materials which some is provided by other area hospitals. Many staff do not recognize Rad symbol or circle - [illegible]

(2) Retraining program implemented. ( ) Yes (✓) No
Remarks.

Need for retraining emphasized at staff meeting. Annual training for technical personnel conducted in Lexington with other states [illegible]

5. cont'd)

t. Instruction to workers in accordance with 10 CFR 19.12.
( ) Yes ( ) No
Remarks.

*c. Describe the QA program to mitigate therapeutic misadministrations. N/A

(1) Have secondary checks of the dose calculations been done?

( ) Yes ( ) No

(2) Do the second party checks of the dose calculations provide assurance that the final treatment plan will provide the dose prescribed on the patient chart? ( ) Yes ( ) No

(3) Do technologists consult with the doctor if the prescription or other orders are unclear? ( ) Yes ( ) No
Remarks.

d. Followup on therapy or serious diagnostic misadministrations N/A

(1) 10 CFR 35.43 properly implemented? ( ) Yes ( ) No

(2) Was proper medical care given for the patient pursuant to the NRC medical consultant recommendations? ( ) Yes ( ) No

(3) Were appropriate actions implemented to prevent recurrence?
( ) Yes ( ) No

(4) Were the technologist and dosimetrist made aware of these actions?
( ) Yes (No)

(5) Do the licensee's QA/QC procedures address these actions to prevent recurrence? ( ) Yes ( ) No
Remarks.

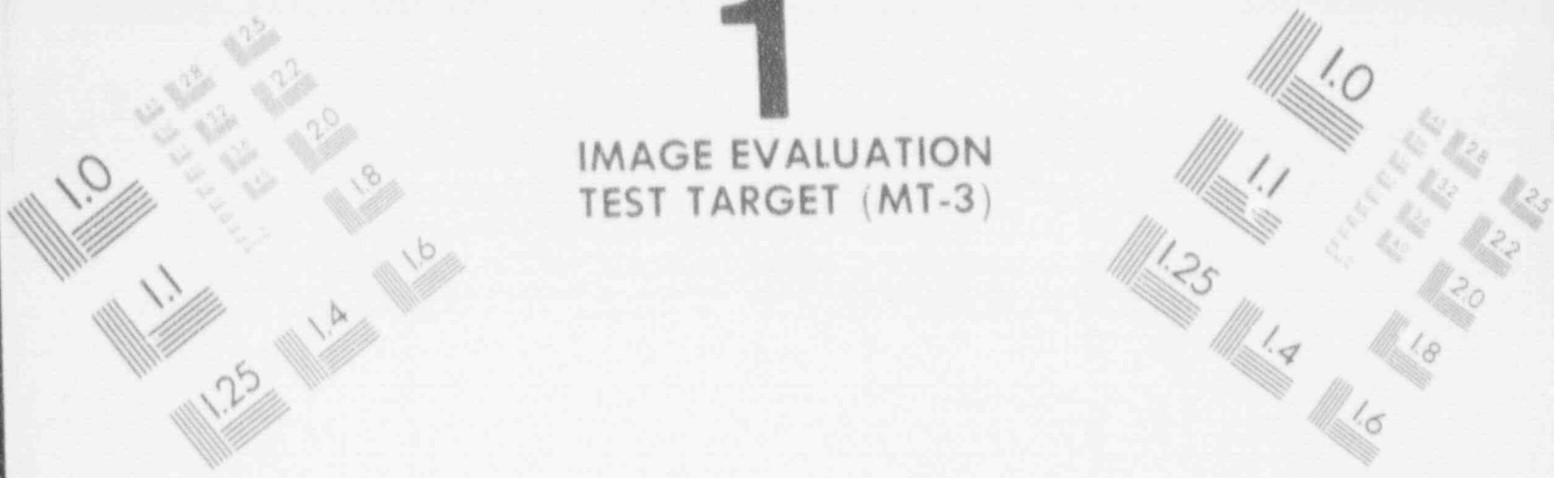
6. RADIOLOGICAL PROTECTION PROCEDURES

a. Radiation Safety program changes reviewed. (Exception to changes without license amendment may be found in 35.13 and 35.606.)
( ) Yes ( ) No

*Inspect when QA rule becomes final.

1

IMAGE EVALUATION
TEST TARGET (MT-3)



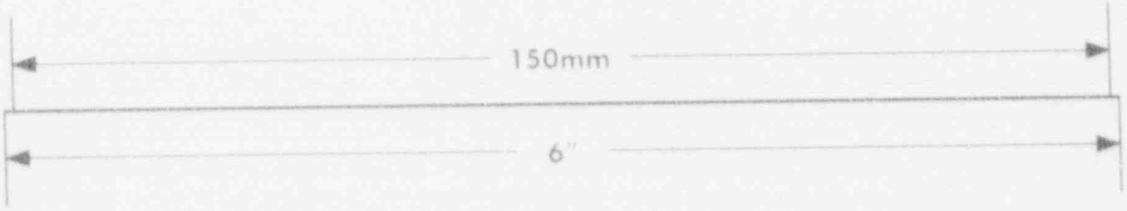


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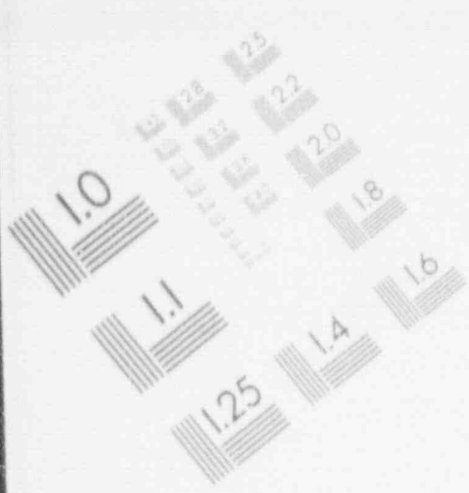
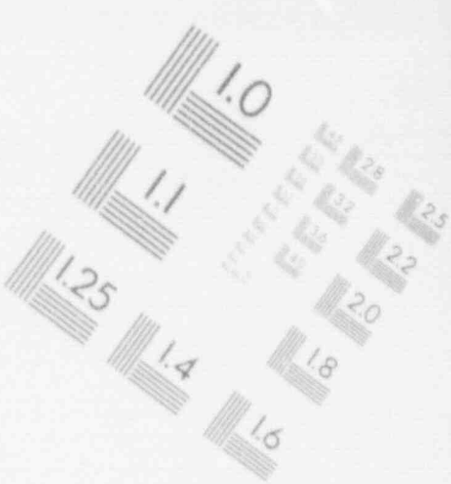
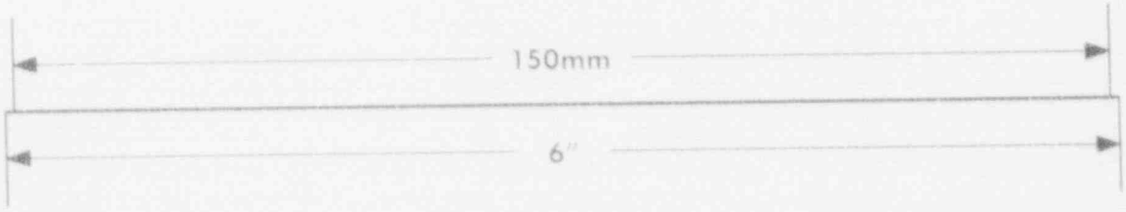
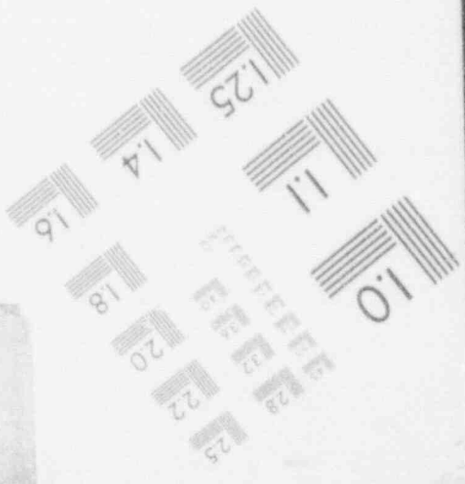
IMAGE EVALUATION
TEST TARGET (MT-3)



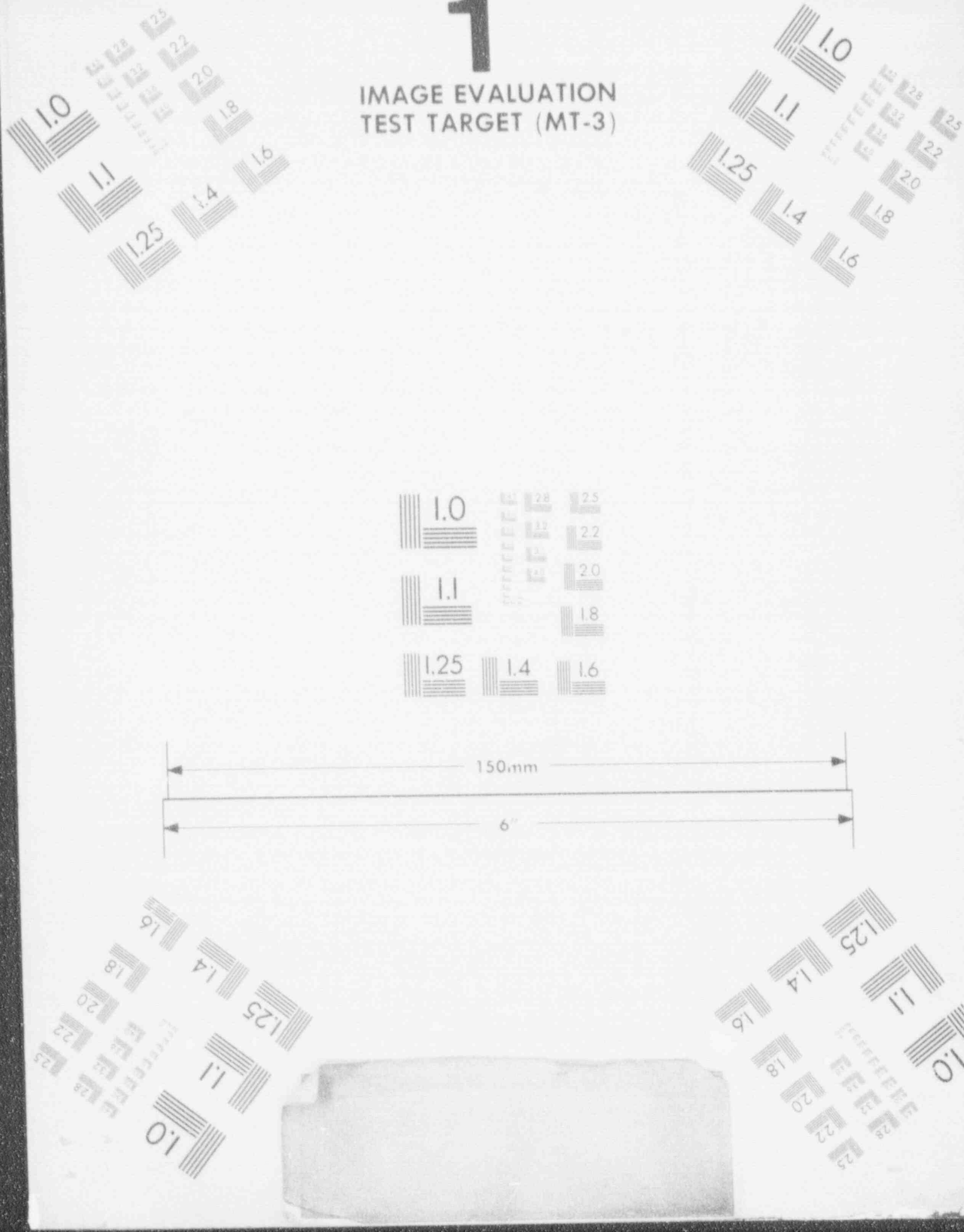






1

IMAGE EVALUATION
TEST TARGET (MT-3)



6. (cont'd)

b. Records of changes in procedures reviewed. ( ) Yes ( ) No
[35.31(b)]
Remarks.

c. Radioactive materials used in accordance with current procedures.
(✓) Yes ( ) No [35.21(b)(2)]
Remarks.
In some cases, current procedures are not well-defined
Review renewal application closely
① Tab coats, gloves worn by lab personnel
② Food in lab area
(1) Describe individuals understanding of current procedures.
NM staff appear knowledgeable, competent
Current ~~and incorrect~~ RSO not familiar with all regulations.
NM instrumentation [illegible] requirements

(2) Examples of key procedures:
(a) ordering and accepting packages of RAM
(b) general rules for safe use of RAM
(c) emergency procedures
(d) survey procedures
(e) handling of volatile RAM (e.g., Xe-133, I-131)
(f) precautions for use of RAM (sealed and unsealed) for therapy
(g) emergency procedures posted?
(h) do licensee personnel understand emergency procedures?
(i) safety procedures for patient therapy in accordance with 35.315 and 35.415

7. MATERIALS, FACILITIES AND INSTRUMENTS

a. Facilities as described in license application. ( ) Yes ( ) No
Remarks. 53 beds in Hospital NM has 4 gamma cameras
Animal carcass storage facility
~ 250 labs

b. Isotope, chemical form, quantity and use as authorized.
( ) Yes ( ) No [L/C]
Remarks.
no brachytherapy, I-131 therapy

c. Syringes containing radioactive material properly labeled and shielded unless contraindicated. (✓) Yes ( ) No [35.60(a)(b)(c)]

d. Vials containing radioactive material properly labeled and shielded.
(✓) Yes ( ) No [35.61(a)(b)]
ample supply of syringe & vial shields

7. (cont'd)

e. Tests required by regulations.

(1) molybdenum-99 breakthrough. ( ) Yes ( ) No [35.204(b)] N/A no generation
(2) performed as required. ( ) Yes ( ) No [35.204(a)]
(3) records maintained. ( ) Yes ( ) No [35.204(c)]
Remarks.
Tc 99m obtained from Ba W Radiopharmacy in multidose vials ~~averaging~~ 200 mCi maximum activity per vial

(4) Leak tests. (✓) Yes ( ) No
Leak tests of sealed sources performed by Harvard
(5) Leak tests performed as required. (✓) Yes ( ) No [35.59(b)]
Dates and Remarks.
Calibration sources not in use and in storage not tested

f. Inventory of sealed sources.

(1) Inventory of Group VI sources. ( ) Yes (✓) No [35.59(g)] N/A
Dates:

(2) Inventory of calibration sources. (✓) Yes ( ) No [35.59(g)]
Dates: Yly inventories by NM of NM cal sources
Harvard also does ~~some~~ semi annual inventories of all sealed sources

g. Areas for storage and use of radioactive materials.

(1) Method used to prevent an unauthorized individual locked areas

(2) Radioactive material secured to prevent unauthorized removal from an unrestricted area. (✓) Yes ( ) No [20.207]
NM Lab locked when unattended
Waste storage area locked
Remarks.
~~Also~~ Lab/waste storage room in Manger Building
Lab/NM waste storage room in Binney Cox Bldg where NM located
Animal keeper is unaware of movement from with outside rooms to outside in unlocked. recommended locking by keeper.

(3) Area wipe tested? (✓) Yes ( ) No
Remarks.
Area survey of storage area conducted by Harvard group; records also maintained by Harvard group; ~~also~~ records were not reviewed
NM performs extensive wipe testing of ~~Hot~~ lab and other areas on weekly basis

h. Instrumentation.

(1) Operable survey instruments are as described or equivalent to those described in license application. (✓) Yes ( ) No
[35.120, 220, 320, 420]
Remarks.
Survey meter in nuclear medicine was labelled as being calibrated in June 8, 1989. Tech indicated that a second meter was borrowed from Radiosafety and was being used to conduct surveys until NM meter could be calibrated. Review of survey records for July indicated that out of calibration meter had been used. NM tech was questioned

7. (cont'd)

(2) Capability of radiation survey instruments is adequate for program.
(✓) Yes ( ) No
Remarks.

Ludlum Model 2 44-7 probe
NaI for counting wipes - trigger level of 37,310 dpm indicated on survey sheet; also reviewed last inspection See item 9 & (6) below.

(3) Calibration of survey instruments required. (✓) Yes ( ) No

(a) Performed as required. (✓) Yes ( ) No [35.50]
Dates and Remarks.

(4) Records of calibration maintained for 2 years. [35.50(e)]
(✓) Yes ( ) No

8. RECEIPT AND TRANSFER OF RADIOACTIVE MATERIAL

Receipt of incoming packages during "off-duty" hours by whom?

(a) Where stored? Security? [L/C] NM packages delivered to B&W during off duty hours. Tech did not know details relative to location stored, and individuals involved in receipt at B&W

(b) Survey of incoming packages. (✓) Yes ( ) No [20.205(b)(1)]
Remarks.
NM techs physically pick up packages from B&W
Packages are wipe tested by techs upon return to OFCI
Records adequate

(1) Record of survey. (✓) Yes ( ) No [20.401(b)]
Remarks.

~~Tracer [illegible]~~

(c) Procedure for opening packages. (✓) Yes ( ) No [20.205(d)]
Remarks.

(d) Returned licensed material transferred in accordance with 10 CFR 30.41.
( ) Yes ( ) No
Remarks.

NM- no return of licensed material - DTS

8. (cont'd)

(e) Records of receipt and transfer maintained. (✓) Yes ( ) No
[30.51]
Remarks.

9. PERSONNEL RADIATION PROTECTION - EXTERNAL
(Obtain information regarding whole body and extremity monitors)

a. Film or TLD badge supplier Landauer Frequency Monthly

b. Reports reviewed by RSO? yes (see below) Others NM ?
Frequency Monthly ← NM reviews reports monthly
RSO reviews summary reports only — quarterly
(Are badges assigned to personnel as per licensee's correspondence with NRC?)
Harvard consulting staff badged by Harvard 350-400 badges distributed monthly

One tech has worked for one yr with no film badge issued

c. NRC inspector reviewed personnel monitoring records for period 4/89 to 4/90
Individual records from Landauer not reviewed and not in any order

d. NRC forms or equivalent.

(1) NRC-4: ( ) Yes ( ) No Complete: ( ) Yes ( ) No
Necessary ( ) Yes ( ) No

(2) NRC-5: ( ) Yes ( ) No Complete: ( ) Yes ( ) No
[20.401(a)]
Remarks.

	Nuc Med	Labs
e. Maximum quarterly whole-body exposure.	70 mrem	
f. Maximum quarterly extremity exposure.	*100 mrem	

No generator badge reports indicate all badge personnel return badges. Zero extremity exposure noted last inspection

g. Licensee has implemented an ALARA program. (✓) Yes ( ) No
[35.50] [see Procedure No. 83822, "Radiation Protection]
Remarks.

Techs instructed by NRC inspector to draw dose so that TLD material was projecting out. records indicate no change in ~~exposure~~ doses reported following change in positioning of ring face

h. Radiation survey of unrestricted areas. (✓) Yes ( ) No
(20.201(b) to show compliance with 20.105(b)) [35.315(a)(4)]; [35.415(a)(4)]
Remarks.
Nuc Med unrestricted areas - radiation levels monitored weekly and daily, no I-131 therapy, brachy therapy
Xe-133 studies unlikely to result in releases above limits only 6 studies per year.
Airborne In three rooms in which studies are performed their is apparently no vent that vents directly to roof, according to tech
Pulmonary Xe has trap

9. (cont'd)

(1) Record of surveys maintained. (x) Yes ( ) No
[20.401(b) to show compliance with 20.105(b)]
Remarks.

i. Radiation survey of storage and use areas:

(1) Quarterly survey brachytherapy source storage. N/A ( ) Yes ( ) No
[35.59(h)]

(2) Temporary implant patient release survey. N/A ( ) Yes ( ) No
[35.404(a)]

(3) Radiopharmaceutical and permanent implant patient release survey.
( ) Yes ( ) No [35.75] N/A

(4) Radiopharmaceutical therapy room contamination survey.
( ) Yes ( ) No [35.315(a)(5) and (7)] N/A

(5) Patient survey upon implant. ( ) Yes ( ) No N/A [35.406(c)]

(6) Radiopharmaceutical storage and laboratory use areas.
(✓) Yes ( ) No [35.70]
Remarks.
NM - Extensive daily weekly surveys utilize Dupont Nuclear Medicine Program for documentation
trigger level for wipe tests in restricted unrestricted areas. indicated on survey records as 37,310 dpm. This was noted on 6/89 inspection →

j. Record of survey maintained. (✓) Yes ( ) No [35.70(h)]
Remarks.

k. Inventory of brachytherapy sources after use. ( ) Yes ( ) No N/A
[35.406]
Remarks.

l. Records maintained. ( ) Yes ( ) No [35.59(g)]; [35.406] N/A

m. Dose calibrator calibration and checks performed as follows:
Constancy (✓) Yes ( ) No Accuracy ( ) Yes ( ) No
Linearity ( ) Yes ( ) No Geometric dependence ( ) Yes ( ) No
[35.50]

Capintec CRC-12 dose calibrator

Constancy Co-57, Ba-133, Cs-137 daily ±5% limits not indicated for Co-137 check but documented for Ba-133, Co-57 checks, tech will include ±5% limits for Cs-137 checks also

Accuracy Co-57, Ba-133, Cs-137 } 4/5/90

Linearity Problems with cross calibration source, dc response high at [illegible] but stable ±5%, reviewer

10. PERSONNEL RADIATION PRO. .TION - INTERNAL

a. Potential for exposure of individuals to airborne radioactive material exists.
( ) Yes ( ) No I-125 iodination here thyroid bioassay performed at time
Remarks.
See item 9 H for potential airborne exposure RSO checked ventilation in 2 of 3 LFOV rooms used for pulmonary ventilation function indicated they were at negative pressure. RSO was requested to check 3rd room - agreed review more closely and inspection

b. Monitoring for airborne radioactivity conducted. ( ) Yes ( ) No traps checked regularly per test
[20.201(b) to show compliance with all sections of 20.103 and 35.90]
Remarks.
Iodine hoods have flow rate checked annually

(1) Records of monitoring maintained. ( ) Yes ( ) No
[20.401(b) or L/C]
Remarks.

c. Bioassay program implemented as described in correspondence with NRC.
(✓) Yes ( ) No [35.315(a)(8)]

d. Control of airborne radioactivity in accordance with 35.205.
(✓) Yes ( ) No

11. RADIOACTIVE EFFLUENT AND WASTE DISPOSAL

a. Radioactivity in effluents to unrestricted areas. ( ) Yes (✓) No

b. Release in accordance with regulatory limits. (✓) Yes ( ) No
[20.106(a)]
Remarks. I-125 hood monitoring results were fairly close to MPC limits. Some corrective action taken. Review further during next inspection
Post [effluent] = 2 to 4 x 10⁻¹¹ µCi/cc in Mayer, Rooms 7-6

c. State solid waste disposal method. DIS - short lived materials
Calibration sources - DIS. Sr 89 solid waste held for decay

d. State liquid waste disposal method.
Liquid waste disposed of through drains
H3/C14 - goes filter to Southboro facility (HLWS)

Sink disposal totals: (maintained by Harvard)

	1989	1990 - to July 31, 1990
H-3	~ 173.6 millicuries	~150 millicuries
C-14	~ 1.5 millicuries	~ 243 microcuries
All others	~ 60 millicuries	~ 81 millicuries

11. (cont'd)

e. Disposal of solid and liquid waste in accordance with regulatory requirements (decay in storage). (✓) Yes ( ) No [35.92(a)]
Remarks.

each lab maintains a running list of liquid items disposed via the sink the log also includes acceptable limits for daily sink disposal.

(1) Records of disposal. (✓) Yes ( ) No [35.92(b)]
Remarks.

f. Survey of waste prior to disposal. ( ) Yes ( ) No [20.201(b) to show compliance with 20.301 - 35.92(-)(2)]
Remarks.
Harvard surveys waste before therapies
NM surveys Tc 99m waste

(1) Records of survey maintained. (✓) Yes ( ) No [20.401(b)]
Remarks.

12. NOTIFICATIONS AND REPORTS

a. Licensee in compliance with 10 CFR 19.13 (reports to individuals).
(✓) Yes ( ) No [19.13]
Remarks.
Attached is a new 'Radiation Safety Violation' policy established to promote self-identification + correction of violations.

b. Licensee in compliance with 10 CFR 20.405 (overexposures).
(✓) Yes ( ) No [20.405(a)]
Remarks.

c. Licensee in compliance with 10 CFR 20.403 (incidents).
(✓) Yes ( ) No [20.403]
Remarks.
One spill report received. On 4/24/90, 5 mCi of Bi-212 was spilled by a research technician. She contaminated her entire body - neck down to shoes. HP responded immediately, decontaminated researcher. Incident was well documented.

12. (cont'd)

d. Licensee in compliance with 10 CFR 20.402 (theft or loss).
(✓) Yes ( ) No [20.402(a) or (b)]
Remarks.

none occurred

e. Licensee in compliance with reporting therapeutic misadministrations and taking corrective action. ( ) Yes ( ) No [35.33(a)(b)(d)] NA
Remarks.

f. License in compliance with reporting diagnostic misadministrations and taking corrective action as needed under conditions set forth in 10 CFR 35.33(c).
(✓) Yes ( ) No
Remarks.

No misad

13. POSTING OF NOTICES

Notices to workers posted. (✓) Yes ( ) No [19.11(a), (b), or (c)]
Remarks.

14. CONFIRMATORY MEASUREMENTS

a. Measurements made by inspector. (✓) Yes ( ) No

b. Survey instrument and probe Ludlum Model 14-C
NRC Serial No. _____

c. Describe type and results of measurements and compare with licensee's measurements.

15. INDEPENDENT MEASUREMENTS

a. Measurements made by inspector. (✓) Yes ( ) No

b. Survey instrument Ludlum Model 14-C
NRC Serial No. _____

c. Describe type and results of measurements.

Memo in NM dept
Picker GC-1000m . [illegible]

labs were monitored [illegible] with Ludlum 14-C
[illegible] Radiation levels

16. POSTING AND LABELING

Posting and labeling in accordance with 10 CFR 20.203.
(✓) Yes ( ) No [20.203]
Remarks.

17. LICENSE CONDITIONS

a. All license conditions reviewed during inspection. (✓) Yes ( ) No

b. Activities were conducted in accordance with license conditions, except as noted elsewhere in this report. (✓) Yes ( ) No
Remarks:

18. BULLETINS AND INFORMATION NOTICES

a. Bulletins and Information Notices issued during current year.
List: NI

b. Bulletins and Information Notices received by licensee. ( ) Yes ( ) No
Remarks. NI

c. Licensee took appropriate action in response to Bulletins and Information Notices. (✓) Yes ( ) No
Remarks.

19. TRANSPORTATION (10 CFR 71.5a and 49 CFR 171-178)

	Yes	Violation?
a. License makes shipments of RAM? If "Yes", complete the following items.	( )	( )

b. Such shipments consisted of:
(✓) radwaste through Hanford
( ) sources/products
( ) other _____

19. (cont'd)

c. For radwaste, shipments are:
( ) by licensee, using common carrier
(✓) through Radwaste Broker
name of Broker Budiac / RWR > Hs 4-14

d. Licensee is aware of 10 CFR 61:

Radwaste requirements for generators?	(✓)	( )
Licensee has classified and characterized its radwaste? (20.311(d))	( )	( )

e. For shipments:

Licensee uses authorized packages? [(173.415-16)]	( )	( )	Harvard takes possession of all Rad waste. They maintain appropriate documentation in accordance w/ DOT regs, & use proper packaging.
Package type used. _____			
For DOT-7A, licensee has performance test records on file? [173.415(a))]	( )	( )	
For special form sources, licensee has performance tests records on file for each source design? [(173.47(a))]	( )	( )	
Packages are properly labeled? [172.403)]	( )	( )	
[173.441)]	( )	( )	
Packages are properly marked? [172.200)]	( )	( )	
Proper shipping papers are prepared for each shipment? [172.203(d))]	( )	( )	

Remarks.

f. Does licensee make return shipments of radiopharmacy doses? NO. ( ) ( )
(If Yes, does licensee assume responsibility for all shipper requirements?) (If No, what arrangements/understanding have been made between licensee and radiopharmacy as to performance of shipper responsibilities?)
(Describe)
Remarks.

20. ITEMS OF NONCOMPLIANCE

~~Opt~~ 4(C) ← not either mentioned as concern

21. CONTINUATION OF REPORT ITEMS - USE BACK OF PAGE IF NECESSARY

INSPECTION REPORT NUMBER _____

APPENDIX A - DOCUMENTATION OF NONCOMPLIANCE

LICENSEE: Dana-Farber Cancer I License No. 20-19761-02

Reference	Basis for noncompliance
Report item 4(b) 10 CFR Lic Cond 25 Type n/c	failure to conduct 1989 annual audit
Report item 6(a) 10 CFR Lic Cond 25 Type n/c	[redacted] lab coats/gloves not worn) food in laboratory not cited mention in cover letter as concern [redacted]
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	

INSPECTION REPORT NUMBER 90-001

APPENDIX B - LICENSEE ACTIONS ON PREVIOUS INSPECTION FINDINGS

Licensee: Dana-Farber Cancer Institute License No.: 20-19761-02

Identification and summary of action taken			Status
Report No.: 89-001	Type n/c:	Describe:	
Action taken: RSO not informed of personnel involved with radioactive materials operations; no dosimetry assigned on work. Notice sent to permit holders to remind them to inform RSO of change in personnel.			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

DANA-FARBER CANCER INSTITUTE

RADIATION SAFETY VIOLATIONS

The following are examples of the most frequent violations found during surveys at The Dana-Farber Cancer Institute with Level I being the most severe.

Level I Violation:	-	radioactive waste disposal in an unlabelled container
Level II Violation:	-	unsecured radioactive materials
Level III Violation:	-	failure to report for thyroid scan
	-	evidence of eating, drinking, smoking or use of cosmetics in a lab
	-	pipetting radioactive material by mouth
	-	not wearing proper dosimeter while working with or around radioactive materials
	-	not wearing proper protective clothing while working with radioactive materials
	-	unrecorded sink disposal of radioactive materials
	-	unreported spill of radioactivity
	-	failure to register a room for using radioactivity
	-	putting lead in radioactive waste
	-	failure to pick up a radioactive package within one hour after notification from receiving
	-	failure to inspect and monitor a package within one hour after pickup from receiving, or failure to provide proper documentation to Radiation Safety Office within five days. ←

Revised
7/30/90

DANA-FARBER CANCER INSTITUTE

RADIATION SAFETY VIOLATION POLICY

SEVERITY	OCCURRENCE	ACTIONS
Level I	1st	1. Violation letter sent to permit holder. 2. Radiation Safety Officer meets with laboratory personnel. 3. Permit holder responds in writing to the Radiation Safety Committee* summarizing corrective actions.
	2nd	1. Violation letter sent to permit holder. 2. Permit holder appears before the Radiation Safety Committee to present corrective actions.
	3rd and subsequent	1. Violation letter sent to permit holder. 2. Immediate suspension of permit. 3. Permit holder and Division/Department/Lab Chief appear before the Radiation Safety Committee to assure that corrective actions have been taken.
Level II	1st	1. Violation letter sent to permit holder. 2. Permit holder must respond in writing to the Radiation Safety Committee* summarizing corrective actions.
	2nd	1. Violation letter sent to permit holder. 2. Radiation Safety Officer meets with laboratory personnel. 3. Permit holder must respond in writing to the Radiation Safety Committee* summarizing corrective actions.
	3rd	1. Violation letter sent to permit holder. 2. Permit holder appears before the Radiation Safety Committee to present corrective actions.

SEVERITY	OCCURRENCE	ACTIONS
Level II (cont)	4th and subsequent	1. Violation letter sent to permit holder. 2. Immediate suspension of the permit. 3. Permit holder and Division/Department/Laboratory Chief appear before the Radiation Safety Committee to assure corrective actions have been taken.
Level III	1st or 2nd	1. Violation letter sent to permit holder. 2. Permit holder must respond in writing to the Radiation Safety Committee* summarizing corrective actions.
	3rd	1. Violation letter sent to permit holder. 2. Radiation Safety Officer meets with laboratory personnel. 3. Permit holder responds in writing to the Radiation Safety Committee* summarizing corrective actions.
	4th	1. Violation letter sent to permit holder. 2. Permit holder appears before the Radiation Safety Committee to present corrective actions.
	5th and subsequent	1. Violation letter sent to permit holder. 2. Immediate suspension of permit. 3. Permit holder and Division/Department/Laboratory Chief appear before the Radiation Safety Committee to assure corrective actions have been taken.

Response letters are to be sent within ten days from the date of the violation letter and/or lab meeting.

* Send response letter to : S.T. Treves, M.D., Chairperson DFCI Radiation Safety Committee
Children's Hospital
Bader 2

* Send copy of response to: Steve Alford, Radiation Safety Officer
JFB 120

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

DOCKET NUMBER: 30-20020

	REPORT NUMBER	STATUS	DATE OPEN	DATE CLOSED	REVIEWER NAME	OPTION	CLOSING REFER
1	87-001	CLOSED	05/29/87	06/22/89	MILLER&TRIPP	VIOL	89-001
	ITEM: 10CFR20.207 FAILURE TO SECURE LICENSED MATERIAL IN THE NUCLEAR MEDICINE HOT LAB						
2	87-001	CLOSED	05/29/87	06/22/89	MILLER&TRIPP	VIOL	89-001
	ITEM: FAILURE OF RESEARCHERS TO HAVE THROIDS MONITORED AFTER PERFORMING IODINATIONS						
3	89-001	CLOSED	06/22/89	08/16/90	KIRKWOOD&MILLER	VIOL	90-001
	ITEM: FAILURE TO NOTIFY RSO OF NEW RAD WORKER-NO DOSIM- ETRY						
4	89-00106	CLOSED	06/22/89	06/22/89	KIRKWOOD/MILLER	VIOL	89-001
	ITEM: WEEKLY SURVEY ACTION LEVEL AT 37,310 DPM						
5	89-00106	CLOSED	06/22/89	06/22/89	KIRKWOOD/MILLER	VIOL	89-001
	ITEM: HOT LAB NOT RECORDED ON SURVEY LIST						
6	89-00106	CLOSED	06/22/89	06/22/89	KIRKWOOD/MILLER	VIOL	89-001
	ITEM: NO HOOD FLOW CHECK DATE IN MAYER 684						
7	89-00106	CLOSED	06/22/89	06/22/89	KIRKWOOD/MILLER	VIOL	89-001
	ITEM: NO RECORD OF FLOW CHECK IN MAYER RM 784						
8	89-00106	CLOSED	06/22/89	06/22/89	KIRKWOOD/MILLER	VIOL	89-001
	ITEM: SIX WASTE BARRELS STORED IN MAYER RM 784, SHARED AREA-NO DESIGNATED SUPERVISOR						
9	90-001	OPEN	08/16/90	/ /	GRESICK-SCHUGST	VIOL	
	ITEM: FAILURE TO PERFORM ANNUAL AUDIT OF THE RS PROGRAM.						

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