

VOID SHEET

TO: License Fee Management Branch

FROM: RIII - Weber

SUBJECT: VOIDED APPLICATION

Control Number: 305268

Applicant: St. Vincent Charity Hospital

License Number: 34-01856-01

Docket Number: 030-02689

Date Voided: 5/21/99

Reason for Void: _____

Change of ownership - amendment not required

Michael F. Weber
Signature

5/21/99
Date

Attachment:
Official Record Copy of
Voided Action

FOR LFMB USE ONLY

☐ Refund Authorized and processed

☒ No Refund Due

☐ Fee Exempt or Fee Not Required

Comments: 100049

Log completed ☒

Processed by: SAC 6/7/99

9906100076 990521
PDR ADOCK 03002689
B PDR

0/1
ML-30
JAW

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 02230
Status Code: 0
Fee Category: 7C 2B
Exp. Date: 20001031
Fee Comments: CODE 21
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: ST. VINCENT CHARITY HOSPITAL
Received Date: 19990513
Docket No: 3002689
Control No.: 305268
License No.: 34-01856-01
Action Type: Amendment

msc
in

Change of
ownership

2. FEE ATTACHED

Amount: _____
Check No.: 0

3. COMMENTS

Signed D. Hersey
Date 5-19-99

B. LICENSE FEE MANAGEMENT BRANCH (Check the appropriate box if entered ☒)

1. Fee Category and Amount: (7C) 2B

FEE NOT REQUIRED

2. Correct Fee Paid. Application may be processed for:

Amendment ☒
Renewal _____
License _____

3. OTHER

Signed LC
Date 5/25/99

Log	<u>MAY 8 III</u>
Remitter	_____
Check No.	_____
Amount	_____
Fee Category	<u>(7C) 2B</u>
Type of Fee	<u>AMB</u>
Date Check Rec'd	_____
Date Completed	<u>5/25/99</u>
By:	<u>SC</u>

9



CARITAS HEALTHCARE PARTNERSHIP

A Ministry of the Sisters of Charity of St. Augustine

VIA OVERNIGHT MAIL

May 12, 1999

United States Nuclear Regulatory Commission
Materials Licensing Section
Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

**Re: Nuclear Regulatory Commission Information Notice 89-25 for St. John
West Shore Hospital and St. Vincent Charity Hospital**

To Whom It May Concern:

Enclosed please find completed copies of the Nuclear Regulatory Commission
Information Notice 89-25 **for St. John West Shore Hospital and St. Vincent Charity
Hospital.**

Should you have any questions, I can be reached at 216.436.4640. Thank you.

Sincerely,

C. Michael Rutherford
Chief Financial Officer

/ajd

Encl. (2)

Cc: Harlin Adelman, Esq. (w/ encl.)
James J. McMonagle, Esq. (w/o encl.)
Paul Lang, Esq. (w/o encl.)

Pm: 5-12-99

FEE NOT REQUIRED

RECEIVED

MAY 13 1999

REGION III

2322 East 22nd Street, Suite 302, Cleveland, OH 44115 216-436-4640 Fax 216-436-4646

305268

St. John
West Shore Hospital
Westlake, Ohio

St. Vincent
Charity Hospital
Cleveland, Ohio

Saint Luke's
Medical Center
Cleveland, Ohio

Ohio Health Choice
Cleveland, Ohio

Professional Medical
Equipment Services
Westlake, Ohio

MAY 13 1999

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

NRC INFORMATION NOTICE 89-25

INFORMATION NEEDED FOR CHANGE OF OWNERSHIP APPLICATION

The applicant, UHHS/CSAHS-Cuyahoga, Inc., an Ohio non-profit corporation (the "Transferee"), hereby provides the following information to the Nuclear Regulatory Commission ("NRC") with respect to the change of ownership of St. Vincent Charity Hospital (NRC License Number 34-01856-01):

- (1) NAME OF LICENSED ORGANIZATION: The name of the licensed organization will be St. Vincent Charity Hospital (the "Hospital").
- (2) LICENSE CONTACT AND TELEPHONE NUMBER: The new license contact and telephone number to facilitate communications is:

Jan Kouris, Adm. Director of Radiology, 216-363-2608
Robert J. Porter, M.D., Radiation Safety Officer, 216-363-2592

- (3) CHANGES IN PERSONNEL: The Transferee is an Ohio non-profit corporation, the two sole members of which are the Sisters of Charity of St. Augustine Health System, an Ohio non-profit corporation ("CSAHS"), and University Hospitals Health System, Inc., an Ohio non-profit corporation ("UHHS"). A list of the trustees and officers of the Transferee is included herewith as *Exhibits "A" and "B,"* respectively.

There are currently no changes planned in Hospital personnel named in the license such as radiation safety officer, authorized users, or any other persons identified in the most recent license application as responsible for radiation safety or use of licensed materials.

- (4) TRANSFEROR: The transferor, Columbia-CSA/HS Greater Cleveland Area Healthcare System, L.P., an Ohio limited partnership (the "Transferor"), will not remain in non-licensed business without the license.

(5) TRANSACTION DESCRIPTION: The transaction is structured as an asset purchase agreement between the Transferor and the Transferee. The Transferor is composed of two general partners, CSAHS and Columbia/HCA Healthcare Corporation of Northern Ohio, Inc., an Ohio corporation ("Columbia"). As indicated above, the Transferee is an Ohio non-profit corporation, the two sole members of which are CSAHS and UHHS.

(6) PLANNED CHANGES-OPERATING OR EMERGENCY PROCEDURES: Except as noted above, there are currently no changes planned in organization, location, facility, equipment or procedures with respect to licensed activities.

(7) PLANNED CHANGES-LICENSED MATERIALS: Except as noted above, there are currently no changes planned in use, possession, location, or storage of the licensed materials.

(8) PLANNED CHANGES-LICENSE AMENDMENT: Except as noted above, there are currently no changes planned in organization, location, facilities, equipment, procedures, or personnel that would require a license amendment even without the change of ownership.

(9) SURVEILLANCE REQUIREMENTS AND RECORDS: It is anticipated that all surveillance items and records will be current at the time of transfer (which is currently expected to occur on or before May 31, 1999). A description of the status of all surveillance requirements and records is provided as *Exhibit "C"*.

(10) RECORDS: All records concerning the safe and effective decommissioning of the facility, pursuant to 10 C.F.R. §§ 30.35(g), 40.36(f), 70.25(g), and 72.30(d); public dose; and waste disposal by release to sewers, incineration, radioactive materials spills, and on-site burials, will be transferred to the Transferee at the time of the closing, which is currently expected to occur on or before May 31, 1999.

(11) FACILITY STATUS: There is currently no contamination at the facility.

(12) DECONTAMINATION PLANS: There is currently no contamination at the facility.

(13) COVENANTS OF THE PARTIES: The Transferee hereby agrees to abide to all commitments and representations previously made to the NRC by the Transferor.

There is currently no contamination at the facility.

There are currently no open inspection items.


(14) DOCUMENTATION: By execution of this document, the Transferor and Transferee hereby agree to the change in ownership and control of the licensed material and activity, and the conditions of the transfer as set forth herein. A copy of the bill of sale will be forwarded to the NRC upon closing as evidence of the transaction.

As indicated above, there are currently no open inspection items.

(15) COMMITMENT OF THE TRANSFeree: The Transferee will abide all constraints, conditions, requirements, representations, and commitments identified in the existing license.

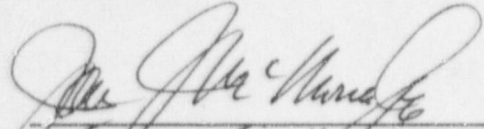
TRANSFEROR

COLUMBIA-CSA/HS GREATER CLEVELAND AREA HEALTHCARE SYSTEM, L.P.

BY: 
PRINTED: C. Michael Rutherford
TITLE: Chief Finance Officer
DATE: 5/12/99

TRANSFEE

UHHS/CSAHS-CUYAHOGA, INC.

BY: 
PRINTED: James J. McManus
TITLE: Secretary
DATE: 5/10/99

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

NRC INFORMATION NOTICE 89-25

INFORMATION NEEDED FOR CHANGE OF OWNERSHIP APPLICATION

EXHIBIT "A"

TRUSTEES OF UHHS/CSAHS-CUYAHOGA, INC.

Sr. Mary Ann Andrews

Michael Blaszyk

Thomas V. Chema

Ronald W. Dees

Murray R. Edelman

Sr. Judith Ann Karam

James J. McMonagle

Henry Meyer

Robert E. Rzewnicki

Fred Rothstein

Paul Tait

Farah M. Walters

UNITED STATES
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OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

NRC INFORMATION NOTICE 89-25

INFORMATION NEEDED FOR CHANGE OF OWNERSHIP APPLICATION

EXHIBIT "B"

OFFICERS OF UHHS/CSAHS-CUYAHOGA, INC.

Farah M. Walters, President

Sr. Judith Ann Karam, Vice-President

James J. McMonagle, Secretary

John T. Faulstich, Treasurer

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INFORMATION NEEDED FOR CHANGE OF OWNERSHIP APPLICATION

EXHIBIT "C"

STATUS OF SURVEILLANCE REQUIREMENTS AND RECORDS

ST. VINCENT CHARITY HOSPITAL

See Attached

ASSOCIATES IN MEDICAL PHYSICS, LLC

Consultant's Report - Nuclear Medicine

5288 Transportation Blvd.
Cleveland, OH 44125
(216) 663-7000

FACILITY: St. Vincent Charity Hospital **DATE OF VISIT:** 3/9/99

LOCATION: Cleveland, OH

DOCTORS: Robert Porter, M.D., RSO; D. Kim, M.D.

PHYSICIST: Ron Scala

TECHNOLOGISTS: Claudette Bailey, RT (NMT); Barbara Craighead (Rad. Therapy)
Sabrina Hays, R.T. (NMTCB)

The quality assurance program at this facility was conducted by reviewing all records and documents required by the various regulatory agencies. Nuclear medicine instrumentation was checked for proper operation. Details of the various evaluations are contained in the pages of this report. Items of special regard are discussed below.

LICENSING

Status of the NRC license was checked. Papers had been forwarded to the hospital to rearrange the physicists authorized on the license for providing brachytherapy services. In particular Bob Carlson was to be removed and Amy Bourne was to be added.

Also the NRC license program was in the process of being merged with several other local hospitals. Appropriate information pertaining to the merger had been forwarded to the hospital under separate cover. This was to be sent to the NRC. When final merger occurs the NRC will then have to be notified of the specific changes. Our office should be contacted for assistance when this occurs.

The State license was checked. No changes appeared to be needed at this time. The Ohio Department of Health was contacted to confirm whether or not the required comparable notification of the pending merger as had to be forwarded to the NRC. They indicated that this was not the case at this time.

In a conversation with the State it was learned that the pending conversion date for Ohio becoming an Agreement State may be July 22 of this year. This is not etched in stone but the license reviewer that discussed this topic appeared to be relatively well informed.

A revised copy of the State regulations was supplied again during this visit. A complete set of regulations was assembled and was being distributed by our organization. A similar set had been included in the report of our last visit. It was suggested the current set of regulations being used in all previous references to State regulations be discarded.

Information on ministerial changes to allow the release of patients treated with radiopharmaceuticals had been sent to the attention of Dr. Porter. It was presumed this issue would be discussed at the upcoming Radiation Safety Committee meeting. The status of the ministerial change can be checked at the time of our next audit.

PERSONNEL DOSIMETRY

Film badge records were reviewed through the end of the year 1998. During the last quarterly exposure of 1998 Ms. Bailey received a whole body dose of 180 mrem. This was above the Level I limits of the ALARA program. It was thought this exposure was due to the fact of transition of nuclear medicine department personnel. Ms. Bailey was handling most of the workload for a short period of time which could have been the main cause of the exposure for this quarter. No corrective action was needed at this time.

Whole body exposure for all individuals for the year showed nobody exceeded 500 mrem. Ms. Baily did receive the limit of 500 mrem. However, it was explained that if the dose had been in excess of 500 mrem then 10CFR19.13 would have required annual notification to be formally documented of each participant's exposure. This was not the case and no annual notification was due.

ADMINISTRATIVE/EDUCATION

A meeting of the Radiation Safety Committee was scheduled for a few days following this audit. A summary of subjects to discuss was reviewed with Ms. Hays. Availability of the minutes of the upcoming meeting will be checked at the time of our next audit.

The department's operating procedure manual was in need of review as discussed in the report of our last visit. The document had been completed in its assembly and was reviewed by this author at this time. It was still in need of signature by the section supervisor and department director. These signatures will be checked during our next site visit.

The department had hired a new technologist, Sabrina Hays. Ms. Hays had reviewed hazmat training, QMP, the regulations and license conditions. She had yet to review the declared pregnancy policy.

The documentation training for Renee Shea as discussed in the report of our last visit was still unsettled as of this audit. This issue was discussed previously. Ms. Shea provides services on a PRN basis. Even though she is not a full-time employee documentation of her review of QMP, hazmat and the rules and regulations should also be kept on file.

SEALED SOURCES

Sealed sources were checked and found to be available. The sealed source site inventory signature page was in need of a signature of the Radiation Safety Officer. Dr. Porter signed the document at this time.

The HDR source most recently prepared for shipping was yet to be transported. The shipping date for this will be checked at the time of our next audit. In the interim another source had been obtained and was installed on the unit and was currently operational. Inventory of this new source was added to the attached inventory sheet.

EQUIPMENT

Survey meters were checked for operability and found to be functioning satisfactorily. It was noted the radiation therapy department's Victoreen ionization chamber with serial number 1668 would be due for calibration by April 13. It was explained this instrument should be forwarded to our SUNTRAC calibration facility ASAP. The GM survey meter with serial number 235 would be due for calibration by June 19 of this year. This unit should be sent to SUNTRAC by mid May.

Activity linearity evaluation of the dose calibrator was performed with the assistance of Ms. Hays. A copy of the results was left with the hospital department. A copy is also attached to this report showing acceptable performance of the dose calibrator.

The dose calibrator was also checked for accuracy at this time using NIST traceable sources brought in for this purpose. The displayed readings were within the acceptable error limit.

The gamma cameras were functioning satisfactorily. Ms. Bailey indicated the one Picker unit was not Y2K compliant. Software was being discussed to address this issue.

Mr. Scala inquired about the status of the efficiency evaluation on the Picker Compac well counter. Efficiency had been last determined on 10/21/81. A question was raised as to whether or not the department had available in its records the results of the analysis that were done that long ago. In fact the report from 10/21/81 was located and shown to Mr. Scala. He requested however that efficiency on the well counter be reestablished with a more recent date so that it may not be so susceptible

to regulatory criticism. It was thought the request was not unreasonable and therefore our organization would attempt to do a reevaluation of efficiency during our next audit.

RADIOPHARMACEUTICAL THERAPY

No patients had been treated in the interim since our last audit.

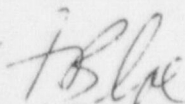
The brachytherapy HDR program was reviewed and found to be essentially in compliance with one questionable area. Our organization had recently learned that Nucletron was not using correct model numbers for identifying the sources used at many HDR licensed facilities. A newsletter addressing this issue, which is attached to this report, was discussed in detail with Mr. Scala. Mr. Scala attempted to contact Nucletron to see if the discrepancy and model numbers on the sources could be addressed. This issue was pursued further by the therapy physicist.

The Quality Management Program was formally reviewed for radiopharmaceuticals in January of this year for 1998 and in February of this year for the brachytherapy program. Documentation of both reviews was on file. No discrepancies were noted.

Several items that had been printed on our web page were left with Ms. Hayes for reference. These dealt with fees the NRC charges for the current fiscal year for licensing activities. Also an issue that dealt with HCFA and the supervision definition of physicians' authorized use of radioactive materials was discussed on our web page. A summary of this was left as well.

Please have the Radiation Safety Officer review the Medical Physics Survey form and document them by signing the enclosed survey sheet attached with each report, as well as the individual sheets for the Sealed Source Storage Site Survey Results, the Sealed Source Inventory, and the Sealed Source Leak Test. This will help satisfy the quarterly requirements of the RSO.

If you should have any questions as to the content of this report or require any further assistance, please do not hesitate to contact me at our Cleveland office.


Frank Bloer
Consultant

FB/dh

Facility:	Columbia St. Vincent	Date:	03/09/99
Dose Calibrator & Model:	Atom Lab 100	Calichek Serial #:	A248
Dose Calibrator Serial No.:	0.989732	Performed by:	S.Hays
Source Configuration:	*3 cc Syringe		

All readings must be taken at the lowest range setting available and converted to mCi units.

A** Tube Color	B** Displayed Activity		C Calibration Factor		D Product of B x C
BlackOnly	148.3 mCi	x	1	=	148.3
Black & Red	87.3 mCi	x	1.685	=	147.1
Black & Orange	51.5 mCi	x	2.85	=	146.8
Black & Yellow	12.03 mCi	x	11.95	=	143.8
Black & Green	4.52 mCi	x	32.3	=	146.0
Black & Blue	1.61 mCi	x	90.8	=	146.2
Black & Purple	0.226 mCi	x	643	=	145.3
Black & Purple/Red	0.1207 mCi	x	1188	=	143.4
Black & Purple/Orange	0.0728 mCi	x	1947	=	141.7
Black & Purple/Yellow	0.0191 mCi	x	7703	=	147.1
Black & Purple/Green	mCi	x	20618	=	0.0
Black & Purple/Blue	mCi	x	53923	=	0.0
SUM				=	1455.7
X				1.10 =	160.2 =UPPER LIMIT
X				0.90 =	131.0 =LOWER LIMIT

SUM (From Column D)	1455.7	=	145.6
No. Entries (Column B)	10		

Compare Column D data to upper and lower limits to confirm linearity.

*The source configuration to be used must be that which was used when the calibration factors in Column C were considered.

**Continue testing in sequence shown until the display is reduced to your minimum patient dose, 10 uCi or less, or as your regulatory agency requires. Use the number of entries in column B in calculating the upper and lower limits.

***The calibration factors for this column are specific to your dose calibrator and the source geometry used when determined.

They can be found on data sheet #1 in your Calichek Kit instruction manual.

MEDICAL PHYSICS SURVEY

DATE: 3/9/99

FACILITY: St. Vincent Charity Hospital

The attached Medical Physics Survey is a review of the Radiation Safety Program. This survey satisfies the Radiation Safety Officer's (RSO) obligations under ALARA. The RSO's review of records identified under 10 CFR 35 was performed with regard to the following items:

- ▶ Sealed Source Storage Site Survey Results, 10 CFR 35.59 (i). See pg. 11.
- ▶ Quarterly Physical Inventory of Sealed Sources, 10 CFR 35.59 (g). See pp. 12-15.
- ▶ Sealed Source Leak Tests, 10 CFR 35.59 (d). See pg. 16.

Other suggested recommendations for corrections are listed below:

ITEM
(if any)

Correction

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

[Signature]
Radiation Safety Officer

MEDICAL PHYSICS SURVEY PERSONNEL DOSIMETRY SUMMARY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

VISIT DATE: 6/26/98 9/4/98 12/11/98 3/9/99
REVIEWED THROUGH: 5/19/98 7/19/98 10/19/98 1/19/99

ID #	NAME		<u>1</u>	<u>2</u>	<u>3</u>	<u>Q</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>Q</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>Q</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>Q</u>	YEAR
1). 4	Bailey, Claudette	WB	20	20	40	80	40	30	50	120	40	50	30	120	60	80	40	180	500
		TLD	30	40	M	70	150	50	M	200	230	170	30	430	60	130	60	250	950
2). 5	Khan, Azmath	WB	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		TLD	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3). 6	Balonek, Myrna	WB	30	20	30	80	30	20	30	80	30	20	40	90	20	M	M	20	270
		TLD	130	120	80	330	90	70	50	210	110	70	100	280	70	70	M	140	960

Current NVLAP Approved Dosimetry Badge Vendor: Siemens to Landauer (=8/96)

(A) Estimated exposure.

(B) Change over in vendors from Siemens to Landauer.

Facility ALARA Exposure Action Level

	Level 1	Level 2
Whole Body TEDE	125 mrem	375 mrem
Organs or tissues, Other Than Eye, DDE & CDE	1250 mrem	3750 mrem
Lens of EYE, EDE	375 mrem	1125 mrem
Extremity or Skin, SDE	1250 mrem	3750 mrem

MEDICAL PHYSICS SURVEY PERSONNEL DOSIMETRY SUMMARY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

VISIT DATE:

REVIEWED THROUGH:

ID #	NAME		1	2	3	Q	4	5	6	Q	7	8	9	Q	10	11	12	Q	YEAR
1). 4	Bailey, Claudette	WB TLD																	
2). 5	Khan, Azmath	WB TLD																	
3). 6	Balonek, Myrna	WB TLD																	
4).	Hays, Sabrina	WB TLD																	

Current NVLAP Approved Dosimetry Badge Vendor: Siemens to Landauer (~8/96)

- (A) Estimated exposure.
(B) Change over in vendors from Siemens to Landauer.

Facility ALARA Exposure Action Level:

	Level 1	Level 2
Whole Body TEDE	125 mrem	375 mrem
Organs or tissues, Other than Eye, DDE & CDE	1250 mrem	3750 mrem
Lens of EYE, EDE	375 mrem	1125 mrem
Extremity or Skin, SDE	1250 mrem	3750 mrem

MEDICAL PHYSICS SURVEY SURVEY METER EVALUATION

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

Type:	G-M	G-M	Ion
Mfg.:	Victoreen	Victoreen	Victoreen
Model No.:	491	290	450
Serial No.:	2309M	235	1668
Ck Source & Geometry	Integral Source	Integral Source	Integral Source

Calibrated	8/28/96	4/22/97	4/13/98
Calibrated	9/4/97	4/1/98	
Calibrated	8/26/98	6/19/98	

	Batt..mr/hr	Batt..mr/hr	Batt..mr/hr
Date			
2/1/95	OK - 1.2*	OK - 1.0	
8/1/95	OK - 1.2	OK - 1.0	
11/15/95	OK - 1.4*	OK - 1.0	
2/5/96	----	OK - 1.0	
5/7/96	OK - 1.6	OK - 1.0*	
8/15/96	OK - 1.2	OK - 1.0	
11/14/96	OK - 1.0	OK - 0.8	
2/19/97	OK - 1.0	OK - 0.9	
5/7/97	OK - 1.0	OK - 0.9	
8/6/97	(A)	OK - 0.9	
11/10/97	OK - 1.5	OK - 0.9	
2/10/98	OK - 1.3	OK - 0.9	
6/26/98	OK - 1.4	OK - 1.2	
9/4/98r	OK - 1.4	OK - 1.0	
12/11/98	OK - 1.2	OK - 1.1	OK - 2.4*
3/9/99	OK - 1.1	OK - 1.2	OK - 2.4

MEDICAL PHYSICS SURVEY DOSE CALIBRATOR EVALUATION ACCURACY TEST

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

Date	Cs-137 (17.4) Cal/Disp/% (uCi)	Ba-133 (7.2) Cal/Disp/% (uCi)	Co-57 (29.3) Cal/Disp/% (uCi)	Sealed Source Set Used	Test/Tester	Bkg Zero	Linearity Test
8/3/94	----	----	----	--	OK	OK	63.6mCi - 8.3μCi
11/2/94	----	----	----	--	OK	OK	42.5mCi - 5.4μCi
2/1/95	178/172/-3.4	170/171/+ .6	.530/.545/+ 2.8	#2	OK	OK	62.5mCi - 8μCi
5/1/95	----	----	----	--	--	--	47mCi - 5.8μCi
8/1/95	----	----	----	--	--	--	47.8mCi - 24μCi*
11/15/95	175/168/-4.0	162/161/-0.6	.255/.259/+ 1.6	#2	OK/E.Sims	OK	61.5mCi - 30μCi
2/5/96	----	----	----	--	OK	OK	47mCi - 23μCi*
5/7/96	----	----	----	--	OK	OK	174.1mCi - 23μCi
8/15/96	148/144/-2.7	84/81.6/-2.9	.120/.119/-0.8	#1	OK/F.Bloe	OK	234mCi-29.1μCi*
11/14/96	---	---	---	--	--	OK	188mCi-23.7μCi
5/7/97	---	---	---	--	--	OK	227mCi-11.4μCi
8/6/97	167/158/-5.4	146/138/-5.5	---	#2	OK/E. Sims	OK	191.4mCi-24.6μCi
11/10/97	---	---	---	--	--	OK	141.5mCi-17.6μCi
2/10/98	---	---	---	--	--	--	197mCi-25μCi
6/26/98	165/154/-6.7%	138/131/-5.1%	---	#2	OK/E. Sims	OK	204mCi - 25μCi
9/4/98r	---	---	---	--	OK	OK	187mCi - 23.6μCi
12/11/98	---	---	---	--	OK	OK	169.1mCi - 21μCi
3/9/99	140/137/-2.1	71/70.2/-1.1	---	--	OK/F. Bloe	OK	148mCi - 19μCi

Set #1: Cs-137, NES 369, S/N 3560380A-14; Ba-133, NES 358, S/N 3580380A-20;
Co-57, INITIALLY- NES 206, S/N A0507; CO-57 AFTER 11/1/97- NAS, Model 4202,
S/N A1477; Co-57 AFTER 1/1/98 - Model CR-165E, S/N S8221053-09
Set #2: Cs-137, NES 369, S/N S356003-31; Ba-133, NES 358, S/N S358002-07;
Co-57, INITIALLY - Model 4202, S/N A0566; Co-57 AFTER 8/1/97 - Model NES 206, S/N S206099-056
Set #3: Cs-137, NES 369, S/N 3560186A-21; Ba-133, NES 358, S/N S358010-001;
Co-57, INITIALLY - NAS, Model 4202, S/N A1477; AFTER 10/1/97 - Co-57, NES 206, S/N 206099-056

MEDICAL PHYSICS SURVEY DOSE CALIBRATOR EVALUATION CONSTANCY READINGS

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

		Tc-99m (33.6)	Ga-67 (30.2)	I-131 (22.2)	Tl-201 (18.8)	Cs-137 (17.4)	In-111 (12.7)	I-123 (10.1) (A)
		uCi	uCi	uCi	uCi	uCi	uCi	uCi
Date								
11/14/96	B	255	230	169	143	132	96	77
2/19/97	B	253	228	167	142	131	95.6	76
8/6/97	B	249	224	164	139	129	94	74
11/10/97	B	248	221	162	138	127	92	74
2/10/98	B	244	220	161	136	126	92	73
6/26/98	B	242	217	159	135	125	91	72
9/4/98	B	239	215	158	134	124	91	72
12/11/98	B	240	216	158	134	124	90	72
3/9/99r	B	236	212	156	132	122	89	71

(A) I-123 precalibrated button adjusted from 14.4 to 10.1 on 11/4/93.

Source: Cs-137
Model: NES-356

Activity: 212 uCi
Calibration: 5/22/78

MEDICAL PHYSICS SURVEY GAMMA CAMERA EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Summit Nuclear T-22
ROOM No.: Nuclear Medicine

Date	PHA (C)(F)	UNCORR. SENSIT. CPM/uCi	SATUR. DUFC OFF-ON	CORR FLOOD	INTRIN RES-DIR	FLOODS OFF PEAK	DUFC LOSS	LINEARITY	MECHANICAL
------	---------------	-------------------------------	--------------------------	---------------	-------------------	-----------------------	--------------	-----------	------------

MEDICAL PHYSICS SURVEY GAMMA CAMERA EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker SX300
ROOM No.: Nuclear Medicine

Date	PHA	INTEN (B/C)	UNCORR SENSIT KCTS/ μ CI (D)	SATUR ON - OFF	OFF PEAK FLOODS	INTRIN RES-DIR (E)	UNIFOR CORR LOSS	LINEARITY
2/4/92	AUTO	350/-4	295	142/145	OK	3.0mm -2.5mm	0%	OK
2/3/93	AUTO	350/-6	329	145/158	POOR *	3.5mm-3.0mm	8.6%	OK

-
- (A) 2×10^6 counts, 20% window, Auto - Iris on, 4 on 1 format
(B) Photo factor setting; ask personnel
(C) Film density; auto expose meter
(D) LEAP collimator, Z circuitry off
(E) Use NMA bar phantom, Z circuitry on
(F) Off Peak Study: low = 122, 20% high = 153, 20%, Z circuitry off

MEDICAL PHYSICS SURVEY SCINTILLATION WELL EVALUATION

FACILITY: St. Vincent Charity Hospital

MODEL No.: Picker Compac 120

LOCATION: Cleveland, OH

ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	H.V.	(A) CPM	(C) RESOL	(D) CHI ²
11/4/93	Cs-137	AUTO	11322	7%	4.59
2/3/94	Cs-137	AUTO	11213	7%	9.90
5/4/94	Cs-137	AUTO	11224	6%	5.67
8/3/94	Cs-137	AUTO	11046	8%	10.4
11/2/94	Cs-137	AUTO	11072	6%	12.5
2/5/95	Cs-137	AUTO	10951	7%	5.64
5/1/95	Cs-137	AUTO	11001	--	2.65
11/15/95	Cs-137	AUTO	10828	7%	5.34
5/7/96	Cs-137	AUTO	10623	7%	10.3
8/15/96	Cs-137	AUTO	10801	7%	8.31
8/6/97	Cs-137	AUTO	10188	7%	10
11/10/97r	Cs-137	AUTO	10187	7%	10
6/26/98	Cs-137	AUTO	9963	6%	10
9/4/98	Cs-137	AUTO	9804	8%	9.8
12/11/98	Cs-137	AUTO	8678	7%	10
3/9/99	Cs-137	AUTO	9409	7%	7.17

(A) 1.0uCi Cs-137 Std. (yellow tube) green end down. Place tube in well slot. Press "Cs-137 Calib." button.

(B) Green end up. Place tube in well slot. Press "STAB TEST" button.

(C) Normal Resolution: 6-12%

(D) Normal Range: 3.325-16.919

(E) Counting efficiency determined 10/21/81 using Co-57 and the above PHA setting was found to be 91%. $DPM = CPM \times CF$. $CF = 1.1$
MDA = 52 DPM for 1 min. at 3 S.D. Isotope Open (20 - 400 Kev)

MEDICAL PHYSICS SURVEY SCINTILLATION PROBE EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Spectroscaler 4R
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	(B) H.V.	(E) CPM	(C) RESOL	(D) CHI ²	TEST
11/10/92	Cs-137	548	26980	11.3%	6.73	
5/4/93	Cs-137	540	21182	10.6%	5.99	3599
8/5/93	Cs-137	540	30991	11.0%	8.31	3600
8/3/94	Cs-137	542	60452	12.1%	*	3600
11/2/94	Cs-137	542	34469	7.6%	2.16	3600 (G)
2/1/95	Cs-137	542	27952	10.5%	4.30	3600
8/15/96	Cs-137	547	46540	11%	---	3600
9/4/98	Cs-137	545	11911	---	---	3600

(A) St. V's 212 μ Ci Cs-137 Std. on cross hairs. H.V. takes minutes to stabilize.

(B) Range: 1, LLD-652, ULD-672

(C) NORMAL RESOLUTION: 8%-12%

(D) NORMAL RANGE: 0.711 - 9.488

(E) Bioassay: % Window Mode; Peak = 364, window = 100; Time = 2 min.; Eff. = 0.06%; 53 cpm - .04 μ Ci
Measured at collimator face. Determined 5/14/90.

(F) Bioassay: For I-125; Peak = 325; LL = 200; UL = 500, mev Range = 0.1; 114 cpm = .12 μ Ci; Measured at
collimator face. Determined 2/4/92. MDA for probe on I-125 = 0.00133 at 3 S.D. for 1 min.

(G) Uptake scaler repaired 8/94.

MEDICAL PHYSICS SURVEY VENTILATION DATA

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE	FUME HOOD (CFM)	CAMERA ROOM (CFM)	DOOR
2/5/96	480	889	Neg.
8/15/96	500	900	Neg.

XENON-133 PROGRAM INACTIVE

-
- (A) Fume Hood: Set opening at 18". Measure flow at top of opening in the middle. $\text{FPM} \times 3.375 \text{ ft}^2 = \text{CFM}$
(B) Camera Room: Determine mid grill maximum FPM. $\text{FPM} \times 1.27 \text{ ft}^2$

MEDICAL PHYSICS SURVEY BRACHYTHERAPY & OTHER SEALED SOURCE STORAGE SITE SURVEYS

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

LOCATION OF SURVEY AND RESULTS IN MREM/HR

DATE	SURVEY METER (Serial Number)	A	B	D	E	F	SURVEYOR
5/4/94	235	.2	.02	(D)	0.5		FB
8/3/94	235	0.5	.02	(D)	0.35		ES
11/2/94	235	0.1	.01	(D)	0.30	.03	ES
2/1/95	235	0.3	.02	(D)	0.20	.50	ES
5/1/95	255	0.1	.02	(D)	0.2	.02	FB
8/1/95	235	0.1	.02	(D)	0.2	.02	FB
11/15/95	235	0.14	.01	(D)	(E)	.02	ES
2/5/96	235	0.1	.02	(D)	0.1	.02	FB
5/7/96	235	0.1	.02	(D)	(E)	.02	ES
11/14/96	235	0.1	.02	(D)	---	.02	FB
2/19/97	235	0.1	.02	(D)	---	.02	FB
5/7/97	235	0.1	.04	(D)	---	.02	FB
8/6/97	235	0.15	.03	(D)	---	.02	ES
11/10/97r	235	0.2	.02	(D)	---	.02	ES
2/10/98	235	0.1	.02	(D)	---	.02	FB
6/26/98	2309M	0.4	.02	---	---	.02	ES
9/4/98	2309M	.2	.02	---	---	.02	FB
12/11/98	235	0.3	.02	---	---	.02	ES
3/9/99	2309M	.2	.03	---	---	.02	FB

LOCATION KEY:

A. Fume hood at plane of glass door. Side to side and top to bottom.

B. Background

C. Xenon tag in storage at time of survey.

*D. Ir-192 survey performed and signed off by Dr. Kim, Assistant RSO, or Dr. Porter, RSO.

E. Co-57 flood case in hot lab. Moved to storage room prior to 11/15/95.

F. Door of storage room in nuclear medicine.

RETAIN THIS RECORD IN COMPLIANCE WITH 10 CFR 35.59(i)

RSO Signature

Robert J. Porter

MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital

DEPARTMENT: Nuclear Medicine

LOCATION: Cleveland, OH

Nuclide:	Cs-137	Co-57	Co-57	Cs-137	Cs-137
Type:	Calib. Std.	Flood Source	Button	Yellow Disc	Calib. Tube
Location:	Hot Lab	Storage Room	Storage Room	Storage Room	Compac
Assay:	212uCi	401 MBq	50uCi	10uCi	1uCi
(Date)	5/22/78	(10.5mCi) 6/21/91	1/92	1981	1981
Mgr:	NEN	Syncor	Dupont	Victoreen	Picker
Serial No.:	319-235-14	CIS 987	NES-289		658200
Model:	NES-356				

DATE					
5/1/95	X	X	X	X	X
8/1/95	X	X	X	X	X
11/15/95	X	X	X	X	X
2/5/96	X	X	X	X	X
5/7/96	X	X	X	X	X
8/15/96	X	X	X	X	X
11/14/96	X	X	X	X	X
2/19/97r	X	X	X	X	X
5/7/97	X	X	X	X	X
8/6/97	X	X	X	X	X
11/10/97	X	X	X	X	X
2/10/98	X	X	X	X	X
6/26/98	X	X	X	X	X
9/4/98	X	X	X	X	X
12/11/98	X	X	X	X	X
3/9/99	X	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature

Robert J. Peters

MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Nuclide:	Cs-137	Ba-133
Type:	Vial E	Vial E
Location:	Storage Room	Storage Room
Assay:	190uCi	271uCi
(Date)	7/8/76	5/1/80
Mgr:	NEN	NEN
Serial No.:	231-08313	3580580
		A-45
Model:		

DATE		
5/1/55	X	X
8/1/95	X	X
11/15/95	X	X
2/5/96	X	X
5/7/96	X	X
8/15/96	X	X
11/14/96	X	X
2/19/97	X	X
5/7/97	X	X
8/6/97	X	X
11/10/97	X	X
2/10/98	X	X
6/26/98	X	X
9/4/98	X	X
12/11/98	X	X
3/9/99	X	X

X - INDICATES SOURCE INVENTORIED

- (A) Source disposed as ordinary waste 4/17/96.
(B) Survey with GM, S/N 235, and measured at 0.02 mR/hr.
Bkg. = 0.02 mR/hr. Labels defaced and discarded to trash 9/4/98.

RSO Signature

[Handwritten Signature]

MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

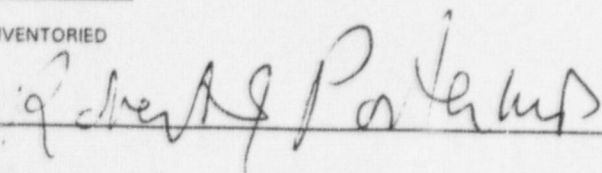
DEPARTMENT: Nuclear Medicine

Nuclide:	Co-57	Co-57	Co-57	Co-57	Co-57
Type:	Flood	Spot Marker	Wand	Flood	Flood
Location:	Storage Room	Camera Room	Camera Room	Storage Room	Storage Room
Assay:	389MBq	50 uCi	10.2 MBq	555 MBq	15 mCi
(Date)	10/9/92	10/25/94	10/96	10/3/96	10/1/98
Mgr:	CIS	Biodex	---	CIS	Syncor
Serial No.:	474	099-289	W06238-4-101	A5571	629-160
Model:		NES-289	---	---	SFLPZ1-057-15M

DATE					
5/1/95	X	X			
8/1/95	X	X			
11/15/95	X	X			
2/5/96	X	X			
5/7/96	X	X			
8/15/96	X	X			
11/14/96	X	X	X	X	
2/19/97	X	X	X	X	
5/7/97	X	X	X	X	
8/6/97	X	X	X	X	
11/10/97	X	X	X	X	
2/10/98	X	X	X	X	
6/26/98	X	X	X	X	
9/4/98	X	X	X	X	
12/11/98	X	X	X	X	X
3/9/99	X	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Nuclide:	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192
Type:	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source
Location:	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader
Assay: (Date)	11.7 Ci 3/12/97	11.0 Ci 6/5/97	11.7 Ci 9/22/97	12.5 Ci 12/16/97	13.0 Ci 3/6/98	12.5 Ci 6/26/98	11.0 Ci 9/17/98	13.4 Ci 12/24/98
Mgr:	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.
Serial No.:	214	912	897	032	973	840	328	033
Model:					DRN 07735	DRN 07735	DRN 07735	DRN 07735

DATE								
11/15/95								
2/5/96								
5/7/96								
8/15/96								
11/14/96								
2.19/97								
5/7/97	X							
8/6/97	(N)	X						
11/10/97		(O)	X					
2/10/98			(P)	X				
6/26/98				(Q)	X			
9/4/98					(R)	X		
12/11/98						X		
3/9/99							(S)	
								X
								X

X - INDICATES SOURCE INVENTORIED

- (N) Returned to Mallinckrodt. 6/26/97
- (O) Returned to Mallinckrodt. 10/21/97
- (P) Returned to Mallinckrodt. 2/4/98
- (Q) Returned to Mallinckrodt. 4/28/98
- (R) Returned to Mallinckrodt. 9/9/98
- (S) Returned to Mallinckrodt. 12/9/98

RSO Signature

Robert J. P. [Signature]

MEDICAL PHYSICS SURVEY SEALED SOURCE LEAK TEST ANALYSIS REPORT

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and reveals removable contamination was less than 0.005 uCi, unless otherwise noted, when compared against NIST traceable standards.

Source: Cs-137 Calibration Standard, 212 uCi, 5/22/78, NEN, 319-235-14

Date:	11/10/97	2/10/98	6/26/98r	9/4/98	12/11/98	3/9/99
Wipe No.:	3271	3765	4695	5204	5807	6305
MDA (uCi):	2E-04	2E-04	2E-04	2E-04	2E-04	2E-04
Net CPM:	0	8	0	0	0	0
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	1,500	1,500	1,500	1,500	1,500	1,500
Analyst:	E. Sims	F. Bloer	E. Sims	F. Bloer	E. Sims	F. Bloer

Source: Co-57 Flood, 555 MBq, 10/3/96, CIS A5571

Date:	11/10/97	2/10/98	6/26/98r	9/4/98	12/11/98	3/9/99
Wipe No.:	3272	3766	4696	5205	5808	6306
MDA (uCi):	3E-05	3E-05	3E-05	3E-05	3E-05	3E-05
Net CPM:	0	0	10	22	0	0
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	10,160	10,160	10,160	10,160	10,160	10,160
Analyst:	E. Sims	F. Bloer	E. Sims	F. Bloer	E. Sims	F. Bloer

Source: Co-57 Flood, 15 mCi on 10/1/98, Syncor, SFLPZ1-057-15M, S/N 629-160

Date:	12/11/98	3/9/99
Wipe No.:	5809	6307
MDA (uCi):	3E-05	3E-05
Net CPM:	0	0
Net uCi:	< MDA	< MDA
CPM for 0.005 uCi:	10,160	10,160
Analyst:	E. Sims	F. Bloer

Performed by: Associates in Medical Physics, LLC

Under License No. : NRC #34-26645-01

RSO Signature

Robert J. Porter MD

ASSOCIATES IN MEDICAL PHYSICS, LLC

Consultant's Report - Nuclear Medicine

5288 Transportation Blvd.
Cleveland, OH 44125
(216) 663-7000

FACILITY: St. Vincent Charity Hospital **DATE OF VISIT:** 12/11/98

LOCATION: Cleveland, OH

DOCTORS: Robert Porter, M.D., RSO; D. Kim, M.D.

PHYSICIST: Ron Scala

TECHNOLOGISTS: Claudette Bailey, RT (NMT); Barbara Craighead (Rad. Therapy)

During this consulting visit, the radiation safety program was evaluated for compliance with federal and state regulatory requirements. Instrumentation was also checked for proper operability. The attached report of our audit was performed in conjunction with a Medical Physics Survey form that identifies specific items of your radiation safety program.

LICENSING

The NRC license was to be revised to delete Robert Carlson as assistant RSO. There was also to be an addition of a physicist, Amelia Bourne, as a brachytherapy physicist. The notification was to be prepared by our office to be submitted to the NRC.

The nuclear medicine department had been inspected by the State on 10/14/98 with no areas of noncompliance. Myrna and Claudette should be congratulated in those findings. It was known that the State would not be inspecting the nuclear medicine department again for approximately three years.

Included with this report is a complete set of State regulations to update those of the nuclear medicine department. Some of those may be redundant and it is suggested that any old Ohio Administrative Code be discarded and the new regulations placed on file to avoid any confusion.

PERSONNEL DOSIMETRY

Personnel dosimetry records were reviewed through 10/19/98. All dosimeters were processed in a timely fashion and all individuals were below ALARA Level I limits for the third quarter. There was a technologist working from St. Luke's Hospital temporarily. Because historically nuclear medicine department personnel do not exceed 10% of the occupational limits, then exposure reports from other facilities for

the temporary technologist(s) would not need to be obtained. If the department personnel routinely exceed 10% of the occupational limits, then those exposure reports should be obtained.

ADMINISTRATIVE/EDUCATION

A meeting of the Radiation Safety Committee was attended today with all required members in attendance and quorum available. Minutes of the Radiation Safety Committee of 9/4/98 were reviewed and found to be complete. Please review the minutes of this meeting for items discussed. Some of those will be elaborated on later in this report.

The annual reviews of the Radiation Safety Program and the ALARA Program were completed today using the questionnaire developed by the NRC and revised by our office. These were discussed at the Radiation Safety Committee meeting and approved.

The annual review of radiation safety for the nuclear medicine staff was current with the exception of Ms. Renee Shea. This was the temporary technologist from St. Luke's Hospital. It is a license obligation to have all radiation workers trained under the guidelines of their NRC license at orientation and before assuming duties and annually thereafter. The radiation safety training for Ms. Shea should be completed as soon as practical using material that had been used for the training of the departmental staff in June, 1998. This will be checked during our next visit. If there are any questions on the training that should be performed in conjunction with the R.S.O., please feel free to contact our office.

The annual review of radiation safety for the non-radiation workers to the hospital was to be completed beginning this month using a memorandum. Completion of that training will also be checked during our next audit.

The operating procedure manual for the department had last been reviewed by Dr. Porter on 1/5/98. This should be performed on an annual basis. Dr. Porter was aware of the annual obligation and was to review the manual in the near future.

As it pertains to Ms. Shea, Hazardous materials training should have been performed at her previous site. A copy of that training and document of competency should be obtained and placed on file in the nuclear medicine department at St. Vincent Charity Hospital. The review of NRC Regulatory Guide 8.13 on prenatal radiation exposure should also be reviewed and signed-off accordingly. This, in addition to the radiation safety training discussed earlier, should be made available and maintained on file for future reference.

HEALTH PHYSICS

Observation of the nuclear medicine technologists today noted that both were wearing laboratory coats, using disposable gloves and using syringe shields as required by license and regulation.

SEALED SOURCES

All sealed radioactive sources were inventoried and leak tested. The department had received a new 15 mCi Co-57 flood source, which has been added to the inventory and leak test sheets within this report. One of the older Co-57 flood sources could be returned to Isotope Products Laboratories with this most recent purchase. This was discussed with Ms. Bailey. If there are any questions on the return, please feel free to contact our office. An old flood source had been surveyed and had been defaced during our last visit. The source had yet to be disposed, although options of performing the disposal were discussed.

SURVEYS

All daily and weekly area surveys were reviewed and found to be very well documented in the department. Ms. Bailey and this consultant discussed the survey and wipe test forms and decided to incorporate both of these tests onto the same record sheet, as had been previously performed by the department. Revisions to this form were discussed and implemented. A copy of the new survey form is incorporated into this report.

Package receipt and return records were also reviewed and found to be well maintained. The department was using the term "No RAM" when no radioactive material was being returned to the radiopharmacy as was suggested in a previous report.

POSTINGS/NOTICES

A revised NRC-3 Form "Notice to Employees" was posted in the nuclear medicine department. Dr. Porter stated that he had also received one from the NRC. This should be posted in the radiation oncology department. Another NRC-3 Form is also included with this report. The older Forms should be discarded. All other postings and notices were prominently displayed.

EQUIPMENT

All survey meters were of recent calibration status and appeared to be working properly using dedicated check sources. The Radiation Oncology department had recently received a new Victoreen-450 ion meter from St. Luke's Hospital. The

calibration date on this unit was listed as 4/13/98. This has been added to the Survey Meter Evaluation sheet within this report. The department should ship the meter to our calibration facility, SUNTRAC Services, approximately the middle of March. Shipping of the meter was discussed with Ms. Craighead.

Activity linearity had been completed by Ms. Bailey today using the Calicheck Kit. Results of that test is included with this report, which noted that the unit was linear from 169.1 mCi to 21 uCi.

RADIOPHARMACEUTICAL THERAPY & QUALITY MANAGEMENT PROGRAM

I-131 treatments for the year of 1998 were reviewed today. All areas of radiation safety appeared to be in order, including written safety instruction being given to the patient. Only in one case did the copy of the instructions maintained by the hospital not have listed the number of days to maintain the guidelines, although it was understood that this information had been given to the patient on their form. There is no requirement for the facility to maintain a copy of the guidance given to the patient, although it is common practice at St. Vincent's.

All obligations of the Quality Management Program for the current calendar quarter and since the beginning of 1998 were also reviewed for the annual audit. All obligations of the QMP, including a written directive prior to patient administration, patient identification verified by more than one method and patient administration compared to the written directive was clearly documented. The annual audit performed today in conjunction with Dr. Porter as R.S.O., found 100% compliance. A document of that review was placed on file. The annual review of the Quality Management Program for the HDR brachytherapy program was to be completed by Mr. Ron Scala in the near future and should be discussed at the next Radiation Safety Committee meeting. This will be checked during our audit, tentatively in March.

BRACHYTHERAPY

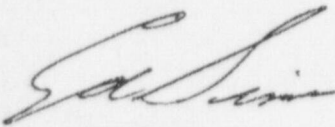
The department of Radiation Oncology had received a new Ir-192 source on 10/6/98. The older Ir-192 source was returned back to Mallinckrodt. Personnel in-service records were also available, which was performed by Nucletron during the installation date of 10/6/98. There was documentation of required surveys of the package prior to return to Mallinckrodt for the source calibrated 3/6/98 and the Ir-192 source of 6/26/98. Footnotes on the inventory page noting the date of returns are listed in this report. All other aspects of the brachytherapy program, that were perused today were felt to be appropriate to meet regulations and license condition.

Specific dates of Radiation Safety Committee meetings for 1999 were picked up today and will be incorporated into our planned quarterly audits for that year. Every effort will be made to coordinate our visits to those dates.

Information was to be offered to Ms. Bailey and Ms. Shea to assist them in preparing for the NMTCB registration. This was to be handled under separate cover. I would like to wish Claudette good luck if she takes the NMTCB test prior to our next visit.

Please have the Radiation Safety Officer review the Medical Physics Survey form and document them by signing the enclosed survey sheet attached with each report, as well as the individual sheets for the Sealed Source Storage Site Survey Results, the Sealed Source Inventory, and the Sealed Source Leak Test. This will help satisfy the quarterly requirements of the RSO.

If you should have any questions as to the content of this report or require any further assistance, please do not hesitate to contact me at our Cleveland office.

A handwritten signature in cursive script, appearing to read 'Ed Sims', written in dark ink.

Ed Sims
Consultant

ES/bab

enclosure

Dose Calibrator Activity Linearity Check

Facility: St. Vincent Charity Hospital

Date: 12/11/98

Dose Calibrator & Model: Atom Lab 100

Calicheck Serial No.: A284

Dose Calibrator Serial No.: 966030/976052

Performed by: Claudette Bailey

Source Configuration * 3 cc syringe

Reviewed by: _____ RSO

All readings must be taken at the lowest range setting available and converted to mCi units.

A** Tube Color	B** Displayed Activity		C*** Calibration Factor	D Product of B x C
Black Only	<u>169.1</u>	mCi x	<u>1.00</u>	= <u>169.1</u>
Black & Red	<u>99.0</u>	mCi x	<u>1.685</u>	= <u>166.82</u>
Black & Orange	<u>58.5</u>	mCi x	<u>2.85</u>	= <u>166.73</u>
Black & Yellow	<u>13.6</u>	mCi x	<u>11.95</u>	= <u>162.52</u>
Black & Green	<u>5.1</u>	mCi x	<u>32.3</u>	= <u>164.73</u>
Black & Blue	<u>1.82</u>	mCi x	<u>90.8</u>	= <u>165.26</u>
Black & Purple	<u>.250</u>	mCi x	<u>643</u>	= <u>160.75</u>
Black & Purple/Red	<u>.136</u>	mCi x	<u>1188</u>	= <u>161.57</u>
Black & Purple/Orange	<u>.083</u>	mCi x	<u>1947</u>	= <u>161.60</u>
Black & Purple/Yellow	<u>.021</u>	mCi x	<u>7703</u>	= <u>161.76</u>
Black & Purple/Green		mCi x	<u>20618</u>	=
Black & Purple/Blue		mCi x	<u>53923</u>	=
			SUM	<u>1640.84</u>

SUM (From Column D)

$$\frac{1640.84}{10} = 164.08$$

$$X \ 1.05 = 172.28 = \text{UPPER LIMIT}$$

No. Entries (Column B)

$$X \ 0.95 = 155.88 = \text{LOWER LIMIT}$$

Compare Column D data to upper and lower limits to confirm linearity.

*The source configuration to be used must be that which was used when the calibration factors in Column C were determined.

**Continue testing in sequence shown until the display is reduced to your minimum patient dose, 10 uCi or less, or as your regulatory agency requires. Use the number of entries in column B in calculating the upper and lower limits.

***The calibration factors for this column are specific to your dose calibrator and the source geometry used when determined. They can be found on data sheet #1 in your Calicheck Kit instruction manual.

MEDICAL PHYSICS SURVEY

DATE: 12/11/98

FACILITY: St. Vincent Charity Hospital

The attached Medical Physics Survey is a review of the Radiation Safety Program. This survey satisfies the Radiation Safety Officer's (RSO) obligations under ALARA. The RSO's review of records identified under 10 CFR 35 was performed with regard to the following items:

- Sealed Source Storage Site Survey Results, 10 CFR 35.59 (i). See pg. 10.
- Quarterly Physical Inventory of Sealed Sources, 10 CFR 35.59 (g). See pp. 11-14.
- Sealed Source Leak Tests, 10 CFR 35.59 (d). See pg. 15.

Other suggested recommendations for corrections are listed below:

ITEM (if any)	Correction
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____


Radiation Safety Officer

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

	DATE:	2/10/98	6/26/98	9/4/98	12/11/98
I. LICENSING					
1. NRC license current. (A) Expires: 10/31/02 Last Amend: 46	YES	YES*	YES	YES*	
2. State license current. Expires: 5/1/03 Last Amend:	YES*	YES*	YES ISSUE	YES	
3. License Applications and supporting documents available for reference. (19.11)	YES	YES	YES	YES	
4. Authorized/Supervised Users and Notifications current. (35.14)	YES	YES*	YES	YES	
5. Materials/Possession limits current and not exceeded.	YES	YES	YES	YES	
6. Facility's description current. Temporary and remote waste storage sites authorized. Future plans/changes considered.	YES	YES	YES	YES	
7. NRC/State Regulations available. (19.11) Last Update: NRC: 8/15/97 State: 1995	YES 8/15/97	YES	YES	YES*	
8. Last regulatory inspection report on file. Corrective action. (19.11) Last inspection date: NRC: 11/4/97 State: 10/14/98	YES 11/4/97	YES	YES	YES*	

(A) Quality Management Program submitted to NRC 1/12/92.

(B) Ohio exemption from leak testing for small sealed sources issued 4/29/91.

(C) No items of non-compliance.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

II. PERSONNEL DOSIMETRY

1. Personnel dosimetry records in order. (20.2106) Reviewed through:	YES* 12/19/97	YES* 4/19/98	YES 7/19/98	YES 10/19/98
2. Current yearly occupational radiation dose determined for new/temporary employees, as required. Attempt to obtain cumulative occupational radiation dose records. (20.2104)	(A)	(A)	(A)	*
3. Whole body & ring badges worn by all personnel handling or using radioactive materials, as required, including declared pregnant radiation workers. (20.1502)	YES	YES	YES	YES
4. Annual notification of yearly occupational dose given to employees that exceed 10% of annual limits. (19.13)	N/A	N/A	N/A	N/A

(A) No new employees since the last visit.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

III. ADMINISTRATIVE/EDUCATION

1. Radiation Safety Committee meetings & records current. (35.22) Quarterly meeting dates:	YES 12/12/97	YES 3/6/98 6/26/98	YES 9/4/98	YES 12/11/98
2. Annual RSC & RSO review of the Radiation Safety Program. (35.22) Last date performed: 1/20/97	YES 1/2/98	YES	YES	YES* 12/11/98
3. Annual Management review of ALARA Program. Last date performed: 1/20/97	YES 1/2/98	YES	YES	YES* 12/11/98
4. Annual review of radiation safety for radiation workers. Last date performed: 5/7/96	YES 5/7/97	YES* 6/26/98	YES	YES*
5. Annual review of radiation safety for non-radiation workers. (A) Last date performed: 1/97	YES 1/98	YES	YES	YES* 12/98
6. Continuing education documented.	YES	YES	YES	YES
7. Regulatory Guide 8.13 records or equivalent current. (19.12)	YES	YES	YES	YES
8. Operating Procedure Manual available. (35.21) Date last reviewed:	YES 1/5/98	YES	YES	YES*
9. Medical Physics Survey reviewed & signed by Radiation Safety Officer.	YES*	YES	YES	YES
10. Policy on file for declared pregnant radiation worker. (20.1208)	YES	YES	YES	YES
11. Hazmat training given to employees involved in packaging radioactive materials for shipment. (172.700) Last date performed: 8/6/97	YES	YES	YES	YES
12. Required training given to new employees during orientation. (QMP, Hazmat, Reg. Guide 8.13)	(B)	(B)	(B)	YES*
13. NRC airborne calculations for calendar year on file. Report submitted, if necessary. Last Date Evaluated: 1/24/97	YES 1/24/97	YES	YES	YES
14. LLRW report filed with State. (A) Last Date Evaluated:	YES* 1/27/97	YES	---	---

(A) Copy of submission not maintained on file.

(B) No new employees since our last visit.

(C) None needed 5/95.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

IV. HEALTH PHYSICS

1. Radioactive materials properly stored.	YES	YES	YES	YES
2. Gloves available and used.	YES	YES	YES	YES
3. Syringe/Vial shields and labels used and completed. (35.60 & 35.61)	YES	YES	YES	YES
4. Adequate shielding during elution, kit preparation, and storage.	YES	YES	YES	YES
5. Hands monitored periodically and prior to leaving the restricted areas.	YES	YES	YES	YES
6. Restricted area secured.	YES	YES	YES	YES
7. Written policy available & in effect for receipt of Radioactive Materials. (35.21 & 20.1906)	YES	YES	YES	YES

V. RADIOPHARMACEUTICALS

1. Kit Preparation/Patient Disposition. Records in order. (35.53)	YES	YES	YES	YES
2. Each patient dose assayed prior to administration. (35.53)	YES	YES	YES	YES
3. Prescribed dosage ranges available.	YES	YES	YES	YES
4. No misadministrations since the last visit. If so, records in order. If applicable, report submitted. (35.53)	YES	YES	YES	YES
5. IND program inactive.	YES	YES	YES	YES
6. Radiopharmacy utilized.	YES	YES	YES	YES
7. Mo-99 assay procedure and limits known.	YES	YES	YES	YES

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/28/98 9/4/98 12/11/98

VI. SEALED SOURCES

1. Sealed Source Inventory completed quarterly. (35.59)	YES	YES	YES*	YES*
2. Leak Tests completed and results on file. (35.59)	YES	YES	YES	YES
3. RSO signature on file for all inventory & leak test results. (35.59)	YES	YES	YES	YES

VII. SURVEYS

1. Daily and weekly area surveys performed and documented. Stress lab surveys included. (35.70)	YES	YES	YES	YES*
2. Area survey results expressed in mR/hr. Action levels documented. (35.70)	YES	YES	YES	YES
3. Weekly area wipe test performed and documented. (35.70)	YES	YES	YES	YES*
4. Area wipe test results expressed in proper units (dpm). Action levels documented. (35.70)	YES	YES	YES	YES
5. Package receipt surveys include readings at surface, 1 meter, empty packing mat'l & wipe test(s). (20.1906)	YES	YES	YES	YES
6. Package(s) returned to mfg. or radiopharmacy include survey(s), wipe test(s), shipping papers, pkg. seals, & DOT labels, as required. (172.204, 172.403, & 173.433)	YES*	YES*	YES*	YES
7. Radioactive materials labels defaced prior to disposal. (20.1904)	YES	YES	YES	YES
8. Waste records indicate storage & disposal dates, bkg. & waste surveys, radionuclides, instrument used, & tech. name. (35.92)	YES	YES*	YES	YES

(A) No radioactive material returned to Syncor.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

VIII. POSTINGS/NOTICES

1. "Posting" for required documents available. (19.11)	YES	YES*	YES	YES
2. Form NRC-3/State "Notice to Employees" properly posted. (19.11)	YES	YES	YES	YES*
3. Emergency Procedures posted; including updated RSO & telephone numbers.	YES	YES	YES	YES
4. "Caution-Radioactive Materials" signs properly posted. (20.1902)	YES	YES	YES	YES
5. "Notice of Violation" posted, if applicable. (19.11)	YES	YES	YES	YES
6. Room evacuation time posted and known, in event of Xe-133 accidental release. (35.205)	YES	YES	YES	YES

IX. VENTILATION

1. Xe-133 program inactive.	YES	YES	YES	YES
-----------------------------	-----	-----	-----	-----

(A) NRC license: Hood = 569 cfm, Room = 671 cfm, Door = Negative

(B) Technique: Camera Room - Determine mid grill maximum FPM. $FPM \times 1.27 \text{ ft} = CFM$
Hood - Set opening at 18 inches. Measure flow at top of opening in the middle.
 $FPM \times 3.375 \text{ ft} = CFM$

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

X. EQUIPMENT

1. Survey Meter Calibration current. (35.51)	YES	YES*	YES*	YES*
2. Survey meter calibration certificate on file. (35.51)	YES	YES	YES	YES
3. Survey meter check source reading and battery check performed each day of use. (35.51)	YES	YES	YES	YES
4. Dose Calibrator Constancy performed & documented each day of use. (35.50) Limit: $\pm 5\%$	YES	YES	YES	YES
5. Dose Calibrator Activity Linearity performed upon installation and quarterly & documentation on file. (35.50) Limit: $\pm 5\%$ Last date performed:	YES 2/10/98	YES 6/26/98	YES 9/4/98	YES 12/11/98
6. Dose Calibrator Accuracy performed upon installation and annually with documentation. on file. (35.50) Limit: $\pm 5\%$ Last date performed: 8/15/96	YES	YES* 8/6/97	YES	YES
7. Dose Calibrator Geometry performed upon installation or after repair, & documented. (35.50) Last date performed: CRC 10R: 7/27/82 Atom Lab: 11/4/93	YES	YES* 8/26/98	YES	YES
8. Calicheck factors current. Confirming linearity test available. Geometry reproduced. Last calibration date: CRC-10R: 6/1/90 Atom Lab: 2/3/94 8/19/96	YES	YES*	YES	YES

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

X. EQUIPMENT *(continued)*

9. Gamma camera(s) peaked, with floods performed, each day of use and documented.	---	YES	YES	YES
10. Uptake probe calibrated each day of use and documented.	YES	YES	YES	---
11. Bioassay efficiency verified. (A) Efficiency: 114cpm = .12uCi (I-125) Last date performed: 2/4/92	YES	YES	YES	---
12. Well Counter calibrated each day of use & documented.	YES	YES	YES	YES
13. Wipe test efficiency verified. Efficiency: 91 % Last date performed: 10/21/81	YES	YES	YES	YES
14. Decontamination Kit, or materials available.	YES	YES	YES	YES

(A) Cleveland State personnel monitored for I-125 uptake.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

XI. RADIOPHARMACEUTICAL THERAPY

A. ALL THERAPY PROCEDURES

1. Any patient therapeutics performed.	YES	YES	YES	YES
2. Radiation safety guidance given patient before release. (35.315)(6)	YES	YES*	YES	YES*
3. Bioassays completed as required by regulations. (35.75), (35.315), (license condition)	N/A	N/A	N/A	N/A
4. I-131 stored in accordance with Regulations 35.90.	N/A	N/A	N/A	N/A

B. INPATIENT THERAPY PROCEDURES

1. Inpatients over 30 mCi I-131 assigned private room and posted. (35.315)(1)(35.75)	(B)	(B)	(B)	(B)
2. Disposable gloves available to attending personnel. (License condition)				
3. Patient room surveyed. Allowable times at distance. Values calculated and posted. (35.315)(2)(4)				
4. Adjacent rooms monitored. Adjacent rooms restricted, as required. (35.315)(4)				
5. "Radioactive material" sign on patient's door. (35.315)(2)				
6. Disposable table services used. (License condition)				

(A) No therapies performed since the last survey.

(B) No inpatient therapies performed since the last survey.

MEDICAL PHYSICS SURVEY

FACILITY: Columbia St. Vicent Charity Hospital LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

XI. RADIOPHARMACEUTICAL THERAPY *(continued B.)*

- | | | | | |
|---|-----|-----|-----|-----|
| 7. Nursing personnel monitored.
(License condition) | (B) | (B) | (B) | (B) |
| 8. Instruction given to all attending
personnel & documented.(35.310) | | | | |
| 9. Radiation safety instruction provided to
patients. (35.315)(6) | | | | |
| 10. Designated radioactive waste containers
installed in room.
(License condition) | | | | |
| 11. Inpatients surveyed prior to release to
verify remaining activity. (35.75)(1)(2) | | | | |
| 12. Disposable materials monitored
prior to discarding. (35.315)(5) | | | | |
| 13. Patient room surveyed and wipe
tested prior to release for general
occupancy. (35.315)(7) | | | | |
| 14. Procedures known in case of
patient surgery/death.(License condition) | | | | |

-
- (A) No therapies performed since the last survey.
(B) No inpatient therapies performed since the last survey.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

XII. BRACHYTHERAPY H.D.R.

1. Source package receipt policy current. Last Revision: 11/89 (A)	YES	YES	YES	YES
2. Receipt survey records current.	YES	YES	YES	YES
3. Receipt wipe test records current.	YES	YES	YES	YES
4. Receipt source leak test certificate on file.	YES	YES	YES	YES
5. Source installation survey records in order. Last Date:	YES 10/14/97	YES 1/13/98 4/7/98	YES 7/28/98	YES 10/6/98
6. Personnel inservice records complete. (C) Last Date Presented: 9/24/96	YES 10/14/97	YES	YES 8/25/98	YES 10/6/98
7. Monthly interlock check records current. (B)	YES	YES	YES	YES
8. Calibration records current.	YES	YES	YES	YES
9. Spent source return package survey, external wipe test, labeling, security seal and shipping papers documentation on file. (D)	YES	YES	*	YES*
10. Daily safety checks performed and documented.	YES	YES	YES	YES
11. Source housing surveyed at each source exchange. Reviewed by RSO.	YES	YES	YES	YES
12. Radiation survey of patients upon completion of treatment.	YES	YES*	YES	YES

(A) Federal Express delivery to radiation therapy during duty hours escorted (only) by receiving department personnel.

(B) Each day of use

(C) To be done annually per amendment #36.

(D) Federal Express picks up Ir-192 source for return to Nucletron.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital LOCATION: Cleveland, OH
 DATE: 2/10/98 6/16/98 9/4/98 12/11/98

XIII. QUALITY MANAGEMENT PROGRAM (35.32)

A. ADMINISTRATIVE PROCEDURES

- | | | | | |
|--|-------------|-----|-----|------|
| 1. Quality Management Program on file. (A)(B) | YES | YES | YES | YES |
| 2. Written directives for patient administrations on file. | YES | YES | YES | YES |
| 3. Patient identification verified by two methods. | YES | YES | YES | YES |
| 4. Patient administrations are compared to the written directive. | YES | YES | YES | YES |
| 5. Quality Management Program reviewed annually. Records on file.
Last Date: 1/17/97 | YES
1/98 | YES | YES | YES* |
| 6. Effectiveness of Quality Management Program determined. Necessary modifications instituted and submitted to NRC within 30 days.
Last Modification: | YES | YES | YES | YES |
| 7. No recordable events since last consultation. Any events evaluated within 30 days and records of evaluation and response on file. | YES | YES | YES | YES |

B. BRACHYTHERAPY PROCEDURES

- | | | | | |
|---|-----|-----|-----|-----|
| 8. Any brachytherapy patient procedures performed. | YES | YES | YES | YES |
| 9. Treatment plan in accordance with written directive verified prior to brachytherapy implant. | YES | YES | YES | YES |
| 10. Loading sequence, number, strength and radionuclide of sources for brachytherapy verified prior to implant. | YES | YES | YES | YES |

-
- (A) Original QMP submitted to the NRC 1/12/92. Letter of Deficiencies reviewed from NRC dated 6/23/94. Revised QMP submitted to the NRC for radiopharmaceutical and HDR treatments 7/18/94. Letter of acknowledgement of receipt of revised QMP by NRC dated 8/29/94 received.
 (B) Revised QMP for low-dose brachytherapy treatments sent to NRC 11/2/94.
 (C) No patients administered > 30 μ Ci I-131 or any radiopharmaceutical therapy dose.

MEDICAL PHYSICS SURVEY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE: 2/10/98 6/26/98 9/4/98 12/11/98

XIII. QUALITY MANAGEMENT PROGRAM (35.32) (Continued)

B. BRACHYTHERAPY PROCEDURES (Continued)

11. Verification of source location after implant performed by x-ray or other method.	(B)	(B)	(B)	(B)
12. Actual brachytherapy implant recorded promptly after implant by the authorized user.	(B)	(B)	(B)	(B)
13. Brachytherapy dose calculations independently checked prior to completion of therapy. (A)	(B)	(B)	(B)	(B)
14. Brachytherapy treatment planning computer program acceptance tested prior to first patient use.	YES	YES	YES	YES

(A) Spot check factor used when one physicist is available.

(B) Verification of position with dummy sources prior to treatment.

MEDICAL PHYSICS SURVEY PERSONNEL DOSIMETRY SUMMARY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

VISIT DATE: 6/26/98 9/4/98 12/11/98
REVIEWED THROUGH: 5/19/98 7/19/98 10/19/98

ID #	NAME		<u>1</u>	<u>2</u>	<u>3</u>	<u>Q</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>Q</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>Q</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>Q</u>	<u>YEAR</u>
1). 4	Bailey, Claudette																		
	WB		20	20	40	80	40	30	50	120	40	50	30	120					
	TLD		30	40	M	70	150	50	M	200	230	170	30	430					
2). 5	Khan, Azmath																		
	WB		M	M	M	M	M	M	M	M	M	M	M	M					
	TLD		M	M	M	M	M	M	M	M	M	M	M	M					
3). 6	Balonek, Myrna																		
	WB		30	20	30	80	30	20	30	80	30	20	40	90					
	TLD		130	120	80	330	90	70	50	210	110	70	100	280					

Current NVLAP Approved Dosimetry Badge Vendor: Siemens to Landauer (=8/96)

- (A) Estimated exposure.
(B) Change over in vendors from Siemens to Landauer.

Facility ALARA Exposure Action Level:

	Level 1	Level 2
Whole Body TEDE	125 mrem	375 mrem
Organs or tissues, Other Than Eye, DDE & CDE	1250 mrem	3750 mrem
Lens of EYE, EDE	375 mrem	1125 mrem
Extremity or Skin, SDE	1250 mrem	3750 mrem

MEDICAL PHYSICS SURVEY SURVEY METER EVALUATION

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

Type:	G-M	G-M	Ion
Mfg.:	Victoreen	Victoreen	Victoreen
Model No.:	491	290	450
Serial No.:	2309M	235	1668
Ck Source & Geometry	Integral Source	Integral Source	Integral Source

Calibrated	8/26/96	4/22/97	4/13/98
Calibrated	9/4/97	4/1/98	
Calibrated	8/26/98	6/19/98	

Date	Batt..mr/hr	Batt..mr/hr	Batt..mr/hr
11/2/94	OK - 1.2	OK - 1.2*	
2/1/95	OK - 1.2*	OK - 1.0	
8/1/95	OK - 1.2	OK - 1.0	
11/15/95	OK - 1.4*	OK - 1.0	
2/5/96	----	OK - 1.0	
5/7/96	OK - 1.0	OK - 1.0*	
8/15/96	OK - 1.2	OK - 1.0	
11/14/96	OK - 1.0	OK - 0.8	
2/19/97	OK - 1.0	OK - 0.9	
5/7/97	OK - 1.0	OK - 0.9	
8/6/97	(A)	OK - 0.9	
11/10/97	OK - 1.5	OK - 0.9	
2/10/98	OK - 1.3	OK - 0.9	
6/26/98	OK - 1.4	OK - 1.2	
9/4/98r	OK - 1.4	OK - 1.0	
12/11/98	OK - 1.2	OK - 1.1	OK - 2.4*

MEDICAL PHYSICS SURVEY DOSE CALIBRATOR EVALUATION ACCURACY TEST

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

Date	Cs-137 (17.4) Cal/Disp/% (uCi)	Ba-133 (7.2) Cal/Disp/% (uCi)	Co-57 (29.3) Cal/Disp/% (uCi)	Sealed Source Set Used	Test/Tester	Bkg Zero	Linearity Test
5/4/94	156/155/- .6	97/96.4/- .6	1.00/1.02/+ 2	#1	OK	OK	44.2mCi - 5.6μCi
8/3/94	----	----	----	--	OK	OK	63.6mCi - 8.3μCi
11/2/94	----	----	----	--	OK	OK	42.5mCi - 5.4μCi
2/1/95	178/172/-3.4	170/171/+ .6	.530/.545/+ 2.8	#2	OK	OK	62.5mCi - 8μCi
5/1/95	----	----	----	--	--	--	47mCi - 5.8μCi
8/1/95	----	----	----	--	--	--	47.8mCi - 24μCi*
11/15/95	175/168/-4.0	162/161/-0.6	.255/.259/+ 1.6	#2	OK/E.Sims	OK	61.5mCi - 30μCi
2/5/96	----	----	----	--	OK	OK	47mCi - 23μCi*
5/7/96	----	----	----	--	OK	OK	174.1mCi - 23μCi
8/15/96	148/144/-2.7	84/81.6/-2.9	.120/.119/-0.8	#1	OK/F.Bloe	OK	234mCi-29.1μCi*
11/14/96	---	---	---	--	--	OK	188mCi-23.7μCi
5/7/97	---	---	---	--	--	OK	227mCi-11.4μCi
8/6/97	167/158/-5.4	146/138/-5.5	---	#2	OK/E. Sims	OK	191.4mCi-24.6μCi
11/10/97	---	---	---	--	--	OK	141.5mCi-17.6μCi
2/10/98	---	---	---	--	--	--	197mCi-25μCi
6/26/98	165/154/-6.7%	138/131/-5.1%	---	#2	OK/E. Sims	OK	204 mCi - 25 μCi
9/4/98r	---	---	---	--	OK	OK	187 mCi - 23.6 μCi
12/11/98	---	---	---	--	OK	OK	169.1 mCi - 21 μCi

Set #1: Cs-137, NES 369, S/N 3560380A-14; Ba-133, NES 358, S/N 3580380A-20;
Co-57, INITIALLY- NES 206, S/N A0507; CO-57 AFTER 11/1/97- NAS, Model 4202,
S/N A1477; Co-57 AFTER 1/1/98 - Model CR-165E, S/N S8221053-09
Set #2: Cs-137, NES 369, S/N S356003-31; Ba-133, NES 358, S/N S358002-07;
Co-57, INITIALLY - Model 4202, S/N A0566; Co-57 AFTER 8/1/97 - Model NES 206, S/N S206099-056
Set #3: Cs-137, NES 369, S/N 3560186A-21; Ba-133, NES 358, S/N S358010-001;
Co-57, INITIALLY - NAS, Model 4202, S/N A1477; AFTER 10/1/97 - Co-57, NES 206, S/N 206099-056

MEDICAL PHYSICS SURVEY DOSE CALIBRATOR EVALUATION CONSTANCY READINGS

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

Date		Tc-99m (33.6)	Ga-67 (30.2)	I-131 (22.2)	Tl-201 (18.8)	Cs-137 (17.4)	In-111 (12.7)	I-123 (10.1) (A)
		uCi	uCi	uCi	uCi	uCi	uCi	uCi
5/1/95	B	267	240	177	150	139	101	80
11/15/95	B	263	236	173	147	136	99	79
	M	263	237	174	147	136	99	79
2/5/96	B	261	235	173	146	135	99	79
	M	261	235	173	146	135	99	79
5/7/96	B	259	233	171	144	134	98	78
	M	259	232	171	145	134	98	78
8/15/96	B	257	231	170	144	133	97	77
	M	257	231	170	144	133	97	77
11/14/96	B	255	230	169	143	132	96	77
2/19/97	B	253	228	167	142	131	95.6	76
8/6/97	B	249	224	164	139	129	94	74
11/10/97r	B	248	221	162	138	127	92	74
2/10/98	B	244	220	161	136	126	92	73
6/26/98	B	242	217	159	135	125	91	72
9/4/98	B	239	215	158	134	124	91	72
12/11/98	B	240	216	158	134	124	90	72

(A) I-123 precalibrated button adjusted from 14.4 to 10.1 on 11/4/93.

Source: Cs-137
Model: NES-356

Activity: 212 uCi
Calibration: 5/22/78

MEDICAL PHYSICS SURVEY GAMMA CAMERA EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Summit Nuclear T-22
ROOM No.: Nuclear Medicine

Date	PHA (C)(F)	UNCORR. SENSIT. CPM/ μ Ci	SATUR. DUFC OFF-ON	CORR FLOOD	INTRIN RES-DIR	FLOODS OFF PEAK	DUFC LOSS	LINEARITY	MECHANICAL
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MEDICAL PHYSICS SURVEY GAMMA CAMERA EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker SX300
ROOM No.: Nuclear Medicine

Date	PHA	INTEN (B/C)	UNCORR SENSIT KCTS/uCi (D)	SATUR ON - OFF	OFF PEAK FLOODS	INTRIN RES-DIR (E)	UNIFOR CORR LOSS	LINEARITY
2/4/92	AUTO	350/-4	295	142/145	OK	3.0mm - 2.5mm	0%	OK
2/3/93	AUTO	350/-6	329	145/158	POOR *	3.5mm - 3.0mm	8.6%	OK

(A) 2×10^5 counts, 20% window, Auto - Iris on, 4 on 1 format
(B) Photo factor setting; ask personnel
(C) Film density; auto expose meter
(D) LEAP collimator, Z circuitry off
(E) Use NMA bar phantom, Z circuitry on
(F) Off Peak Study: low = 122, 20% high = 153, 20%, Z circuitry off

MEDICAL PHYSICS SURVEY SCINTILLATION WELL EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Compac 120
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	H.V.	(A) CPM	(C) RESOL	(D) CFP
8/5/93	Cs-137	AUTO	10971	9%	6.13
11/4/93	Cs-137	AUTO	11322	7%	4.59
2/3/94	Cs-137	AUTO	11213	7%	9.90
5/4/94	Cs-137	AUTO	11224	6%	5.67
8/3/94	Cs-137	AUTO	11046	8%	10.4
11/2/94	Cs-137	AUTO	11072	6%	12.5
2/5/95	Cs-137	AUTO	10951	7%	5.64
5/1/95	Cs-137	AUTO	11001	--	2.65
11/15/95	Cs-137	AUTO	10828	7%	5.34
5/7/96	Cs-137	AUTO	10623	7%	10.3
8/15/96	Cs-137	AUTO	10801	7%	8.31
8/6/97	Cs-137	AUTO	10188	7%	10
11/10/97r	Cs-137	AUTO	10187	7%	10
6/26/98	Cs-137	AUTO	9963	6%	10
9/4/98	Cs-137	AUTO	9804	8%	9.8
12/11/98	Cs-137	AUTO	8678	7%	10

(A) 1.0uCi Cs-137 Std. (yellow tube) green end down. Place tube in well slot. Press "Cs-137 Calib." button.

(B) Green end up. Place tube in well slot. Press "STAG TEST" button.

(C) Normal Resolution: 6-12%

(D) Normal Range: 3.325-16.919

(E) Counting efficiency determined 10/21/81 using Co-57 and the above PHA setting was found to be 91%. $DPM = CPM \times CF$. $CF = 1.1$
MDA = 52 DPM for 1 min. at 3 S.D. Isotope Open (20 - 400 Kev)

MEDICAL PHYSICS SURVEY SCINTILLATION PROBE EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Spectroscaler 4R
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	(B) H.V.	(E) CPM	(C) RESOL	(D) CHP	TEST
11/10/92	Cs-137	548	26980	11.3%	6.73	
5/4/93	Cs-137	540	21182	10.6%	5.99	3599
8/5/93	Cs-137	540	30991	11.0%	8.31	3600
8/3/94	Cs-137	542	60452	12.1%	*	3600
11/2/94	Cs-137	542	344F9	7.6%	2.16	3600 (G)
2/1/95	Cs-137	542	27952	10.5%	4.30	3600
8/15/96	Cs-137	547	46540	11%	---	3600
9/4/98	Cs-137	545	11911	---	---	3600

(A) St. V's 212 uCi Cs-137 Std. on cross hairs. H.V. takes minutes to stabilize.

(B) Range: 1, LLD-652, ULD-672

(C) NORMAL RESOLUTION: 8%-12%

(D) NORMAL RANGE: 0.711 - 9.488

(E) Bioassay: % Window Mode; Peak = 364, window = 100; Time = 2 min.; Eff. = 0.06%; 53 cpm - .04 uCi
Measured at collimator face. Determined 5/14/90.

(F) Bioassay: For I-125; Peak = 325; LL = 200; UL = 500, mev Range = 0.1; 114 cpm = .12 uCi; Measured at
collimator face. Determined 2/4/92. MDA for probe on I-125 = 0.00133 at 3 S.D. for 1 min.

(G) Uptake scaler repaired 8/94.

MEDICAL PHYSICS SURVEY VENTILATION DATA

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE	FUME HOOD (CFM)	CAMERA ROOM (CFM)	DOOR
2/5/96	480	889	Neg.
8/15/96	500	900	Neg.

XENON-133 PROGRAM INACTIVE

-
- (A) Fume Hood: Set opening at 18". Measure flow at top of opening in the middle. $\text{FPM} \times 3.375 \text{ ft} = \text{CFM}$
(B) Camera Room: Determine mid grill maximum FPM. $\text{FPM} \times 1.27 \text{ ft}^2$

MEDICAL PHYSICS SURVEY BRACHYTHERAPY & OTHER SEALED SOURCE STORAGE SITE SURVEYS

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

LOCATION OF SURVEY AND RESULTS IN MREM/HR

DATE	SURVEY METER (Serial Number)	A	B	D	E	F	SURVEYOR
2/3/94	235	1.2	.02	(D)	0.7		ES
5/4/94	235	.2	.02	(D)	0.5		FB
8/3/94	235	0.5	.02	(D)	0.35		ES
11/2/94	235	0.1	.01	(D)	0.30	.03	ES
2/1/95	235	0.3	.02	(D)	0.20	.50	ES
5/1/95	255	0.1	.02	(D)	0.2	.02	FB
8/1/95	235	0.1	.02	(D)	0.2	.02	FB
11/15/95	235	0.14	.01	(D)	(E)	.02	ES
2/5/96	235	0.1	.02	(D)	0.1	.02	FB
5/7/96	235	0.1	.02	(D)	(E)	.02	ES
11/14/96	235	0.1	.02	(D)	---	.02	FB
2/19/97	235	0.1	.02	(D)	---	.02	FB
5/7/97	235	0.1	.04	(D)	---	.02	FB
8/6/97	235	0.15	.03	(D)	---	.02	ES
11/10/97	235	0.2	.02	(D)	---	.02	ES
2/10/98	235	0.1	.02	(D)	---	.02	FB
6/26/98	2309M	0.4	.02	---	---	.02	ES
9/4/98	2309M	.2	.02	---	---	.02	FB
12/11/98	235	0.3	.02	---	---	.02	ES

LOCATION KEY:

- A. Fume hood at plane of glass door. Side to side and top to bottom.
- B. Background
- C. Xenon bag in storage at time of survey.
- *D. Ir-192 survey performed and signed off by Dr. Kim, Assistant RSO, or Dr. Porter, RSO.
- E. Co-57 flood case in hot lab. Moved to storage room prior to 11/15/95.
- F. Door of storage room in nuclear medicine.

RETAIN THIS RECORD IN COMPLIANCE WITH 10 CFR 35.59(i)

RSO Signature

Robert J. Porter MD

MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

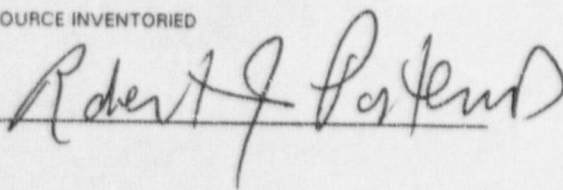
DEPARTMENT: Nuclear Medicine

Nuclide:	Cs-137	Co-57	Co-57	Cs-137	Cs-137
Type:	Calib. Std.	Flood Source	Button	Yellow Disc	Calib. Tube
Location:	Hot Lab	Storage Room	Storage Room	Storage Room	Compac
Assay:	212uCi	401 MBq	50uCi	10uCi	1uCi
(Date)	5/22/78	(10.5mCi) 6/21/91	1/92	1981	1981
Mgr:	NEN	Syncor	Dupont	Victoreen	Picker
Serial No.:	319-235-14	CIS 987	NES-289		658200
Model:	NES-356				

D/TE					
2/1/95	X	X	X	X	X
5/1/95	X	X	X	X	X
8/1/95	X	X	X	X	X
11/15/95	X	X	X	X	X
2/5/96	X	X	X	X	X
5/7/96	X	X	X	X	X
8/15/96	X	X	X	X	X
11/14/96	X	X	X	X	X
2/19/97	X	X	X	X	X
5/7/97	X	X	X	X	X
8/6/97	X	X	X	X	X
11/10/97	X	X	X	X	X
2/10/98	X	X	X	X	X
6/26/98	X	X	X	X	X
9/4/98	X	X	X	X	X
12/11/98	X	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Nuclide:	Co-57	Cs-137	Ba-133
Type:	Flood	Vial E	Vial E
Location:	Storage Room	Storage Room	Storage Room
Assay:	384MBq	190uCi	271uCi
(Date)	7/30/89	7/8/76	5/1/80
Mgr:	CIS	NEN	NEN
Serial No.:	858	231-08313	3580580 A-45
Model:			

DATE			
2/1/95	X	X	X
5/1/95	X	X	X
8/1/95	X	X	X
11/15/95	X	X	X
2/5/96	X	X	X
5/7/96	X	X	X
8/15/96	X	X	X
11/14/96	X	X	X
2/19/97r	X	X	X
5/7/97	X	X	X
8/6/97	X	X	X
11/10/97	X	X	X
2/10/98r	X	X	X
6/26/98	X	X	X
9/4/98	(B)	X	X
12/11/98	(B)	X	X

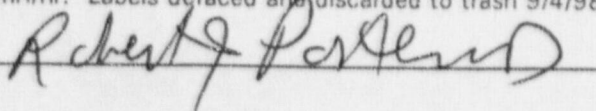
X - INDICATES SOURCE INVENTORIED

(A) Source disposed as ordinary waste 4/17/96.

(B) Survey with GM, S/N 235, and measured at 0.02 mR/hr.

Bkg. = 0.02 mR/hr. Labels defaced and discarded to trash 9/4/98.

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

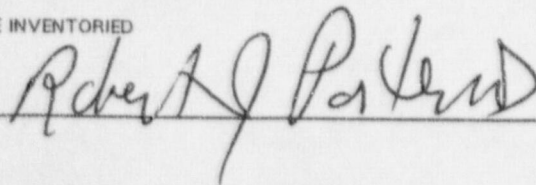
DEPARTMENT: Nuclear Medicine

Nuclide:	Co-57	Co-57	Co-57	Co-57	Co-57
Type:	Flood	Spot Marker	Wand	Flood	Flood
Location:	Storage Room	Camera Room	Camera Room	Storage Room	Storage Room
Assay:	389MBq	50 uCi	10.2 MBq	555 MBq	15 mCi
(Date)	10/9/92	10/25/94	10/96	10/3/96	10/1/98
Mgr:	CIS	Biodex	---	CIS	Syncoor
Serial No.:	474	099-289	W06238-4-101	A5571	629-160
Model:		NES-289	---	---	SFLPZ1-057-15M

DATE					
2/1/95	X	X			
5/1/95	X	X			
8/1/95	X	X			
11/15/95	X	X			
2/5/96	X	X			
5/7/96	X	X			
8/15/96	X	X			
11/14/96	X	X	X	X	
2/19/97	X	X	X	X	
5/7/97	X	X	X	X	
8/6/97	X	X	X	X	
11/10/97	X	X	X	X	
2/10/98	X	X	X	X	
6/26/98	X	X	X	X	
9/4/98	X	X	X	X	
12/11/98	X	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

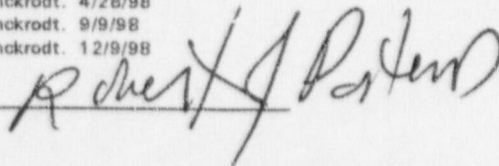
Nuclide:	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192
Type:	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source
Location:	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader
Assay: (Date)	11.7 Ci 3/12/97	11.0 Ci 6/5/97	11.7 Ci 9/22/97	12.5 Ci 12/16/97	13.0 Ci 3/6/98	12.5 Ci 6/26/98	11.0 Ci 9/17/98
Mgr:	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.
Serial No.:	214	912	897	032	973	840	328
Model:					DRN 07735	DRN 07735	DRN 07735

DATE							
11/15/95							
2/5/96							
5/7/96							
8/15/96							
11/14/96							
2/19/97							
5/7/97	X						
8/6/97	(N)	X					
11/10/97		(O)	X				
2/10/98			(P)	X			
6/26/98				(R)	X		
9/4/98						X	
12/11/98				(R)	(S)	X	

X - INDICATES SOURCE INVENTORIED

(N) Returned to Mallinckrodt. 6/26/97
(O) Returned to Mallinckrodt. 10/21/97
(P) Returned to Mallinckrodt. 2/4/98
(Q) Returned to Mallinckrodt. 4/28/98
(R) Returned to Mallinckrodt. 9/9/98
(S) Returned to Mallinckrodt. 12/9/98

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE LEAK TEST ANALYSIS REPORT

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and reveals removable contamination was less than 0.005 uCi, unless otherwise noted, when compared against NIST traceable standards.

Source: Cs-137 Calibration Standard, 212 uCi, 5/22/78, NEN, 319-235-14

Date:	8/6/97	11/10/97	2/10/98	6/26/98r	9/4/98	12/11/98
Wipe No.:	2623	3271	3765	4695	5204	5807
MDA (uCi):	2E-04	2E-04	2E-04	2E-04	2E-04	2E-04
Net CPM:	0	0	8	0	0	0
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	1,500	1,500	1,500	1,500	1,500	1,500
Analyst:	E. Sims	E. Sims	F. Bloer	E. Sims	F. Bloer	E. Sims

Source: Co-57 Flood, 555 MBq, 10/3/96, C/S A5571

Date:	8/6/97	11/10/97	2/10/98	6/26/98r	9/4/98	12/11/98
Wipe No.:	2624	3272	3766	4696	5205	5808
MDA (uCi):	3E-05	3E-05	3E-05	3E-05	3E-05	3E-05
Net CPM:	0	0	0	10	22	0
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	10,160	10,160	10,160	10,160	10,160	10,160
Analyst:	E. Sims	E. Sims	F. Bloer	E. Sims	F. Bloer	E. Sims

Source: Co-57 Flood, 15 mCi on 10/1/98, Syncor, SFLPZ1-057-15M, S/N 629-160

Date:	12/11/98
Wipe No.:	5809
MDA (uCi):	3E-05
Net CPM:	0
Net uCi:	< MDA
CPM for 0.005 uCi:	10,160
Analyst:	E. Sims

Performed by: Associates in Medical Physics, LLC

Under License No.: NRC #34-26645-01

RSO Signature

ASSOCIATES IN MEDICAL PHYSICS, LLC

Consultant's Report - Nuclear Medicine

5288 Transportation Blvd.
Cleveland, OH 44125
(216) 581-4350

FACILITY: St. Vincent Charity Hospital **DATE OF VISIT:** 6/26/98

LOCATION: Cleveland, OH

DOCTORS: Robert Porter, M.D., PSO; D. Kim, M.D.

PHYSICIST: Ron Scala

TECHNOLOGISTS: Myrna Balonek RT(NM); Claudette Bailey, RT (NMT)
Azmath Khan, RTNM, Barbara Craighead (Rad. Therapy)

During this consulting visit, the radiation safety program was evaluated for compliance with federal and state regulatory requirements. Instrumentation was also checked for proper operability. The attached report of our audit was performed in conjunction with a Medical Physics Survey form that identifies specific items of your radiation safety program.

LICENSING

The NRC license was current at the time. A copy of the notification to the NRC to delete Dr. Hare was sent to our office for completion of our files.

The radioactive materials license application for the State of Ohio had been mailed to Columbus in February. A copy of the certifying statement by administration was picked up for our files. Also since our last visit, the hospital had received their Ohio Radioactive Materials License. A copy was also picked up for our files, was reviewed and was felt to meet references from the license application. One minor exception was that Dr. Hare had been added to the Ohio license. A notification was also to be prepared by our office following this visit for submission to St. Vincent's and subsequently to the State to delete Dr. Hare. At this early stage of Ohio's radiation protection program, it was unsure whether the license would be reprinted with the deletion of Dr. Hare. A State representative could not be contacted at the time of this visit for comment.

The last inspection on behalf of the State of Ohio had been performed in May 1995 by our office. Since consulting physicists can no longer perform this function, the State is performing all inspections. It would not be unlikely to have an inspection by a State representative in the near future. These are unannounced and are very thorough, but also from recent history found to be fair.

PERSONNEL DOSIMETRY

Personnel dosimetry records were reviewed through 4/19/98. All individuals are below ALARA Level I limits for the first quarter of 1998. The annual review of exposures noted that no individuals exceeded 10% of the occupational limits for the 1997 calendar year.

ADMINISTRATIVE/EDUCATION

The minutes of the Radiation Safety Committee meeting of 3/6/98 were reviewed and found to be complete. A meeting of the Radiation Safety Committee was attended this day. All required members were in attendance and a quorum was available. It had been requested by St. Vincent's that Radiation Safety Committee meetings should coincide with our visits. We always appreciate the request to attend these meetings and pass on information that is felt to be current and of importance to licensees.

The annual radiation safety review of nuclear medicine technologists was completed today by this consultant with Ms. Bailey and Ms. Ballonek. Several aspects of the radiation safety program were reviewed. A copy of the training material is included with this report and should be maintained on file.

SEALED SOURCES

All sealed radioactive sources were inventoried and leaked tests were performed on all appropriate standards. There was no removable contamination found on any of the sources evaluated.

SURVEYS

All daily and weekly area surveys were reviewed and found to be well maintained with all proper units of measurement. One compliment to the records was that the abbreviation "N.P." was used for "no patients" being performed in nuclear cardiology. This notation was only used in that location on those particular days so surveys could be omitted.

Package receipt and return records were evaluated in detail. It was noted that there were several instances when packages being returned did not have any documentation of surveys or wipe tests analysis to meet D.O.T. standards. When discussing this with the technologists, it was found for those containers being returned to the radiopharmacy, that there was no radioactive waste being returned in the cases, only the shipping containers themselves. In those cases, it was suggested that a comment be placed on that line of the records that there was no radioactive waste being returned to the pharmacy. It was also pointed out to the

technologists that if these packages are being returned to the pharmacy without any residual waste that no surveys or wipe tests are needed to be performed. Since the packages are empty there should be no labeling on the outside of the case as a White I or as Limited Quantity. These labels should be placed on the inside of the package.

Radioactive materials waste records were evaluated and found to be well maintained. One item that could use improvement was occasional notation of "needles and syringes" without the label of the radionuclide. 10CFR35.92 of the NRC regulations requires that the radionuclide be listed in the waste records. It was suggested that a footnote to the page be listed that needles and syringes would equate to Tc-99m and Tl-201 waste and therefore would require 30 days of decay with the Tl-201.

POSTING/NOTICES

10CFR30.35 (g) requires that licensees have records of decommissioning available. This has not been considered a significant point for nuclear medicine in the past, but has been an occasional point of question by inspectors from the NRC and some Agreement States. This has also been an item that has been listed in the Ohio license application for the hospital. A one page document was discussed at the Radiation Safety Committee meeting and left that was to be posted in the nuclear medicine department that simply states that survey records and diagrams of those areas are maintained in the department and that the RSO can be contacted with any questions. The implementation date of that document was 6/26/98.

EQUIPMENT

Survey meters were evaluated for function by use of dedicated check sources. All were found to be operating properly and giving check source readings within 20% of the calibration facility. The Victoreen 740F ion meter was retired from service since our last visit. The Victoreen 491 survey meter is due for calibration by 9/4/98. The meter should be sent to SUNTRAC Services approximately one month before that date. There should be a letter received from SUNTRAC Services reminding the department of the upcoming due date.

Activity linearity was completed this day using the Calicheck Kit. The unit was found to be linear from 204 mCi to 25 μ Ci. A copy of those test results are included at the end of this report.

Accuracy testing was performed on the dose calibrator using NIST traceable sources bought in for this purpose. The unit was found to be measuring within the $\pm 10\%$ tolerance limits.

The geometry evaluation performed on 11/4/93 and the Calicheck factors determined on 8/19/96 along with a confirming decay linearity was copied from our files and left

with Ms. Ballonek. I understand those records were in the department, but could not be located at this time. It was suggested these copies be maintained in a separate file for easy future reference.

RADIOPHARMACEUTICAL THERAPY

There have been three I-131 treatments since our last visit. All three met the radiation safety requirements of license condition and radiation safety guidance had been given to each of the patients. It was found that two of the patients had documented copies of that guidance in their records. One was not copied, but this was not an obligation by the facility and was felt to be of no consequence. It is the policy of the department to make copies of the instructions for complete records.

BRACHYTHERAPY HDR

There had been a new Ir-192 source exchange over the last 3 months. In fact, the last two exchanges had been on 1/13/98 and 4/7/98. The source installed on 1/13/98 had been returned to Mallinckrodt and documentation of that transfer can be found in the sealed source inventory section of our report. All required surveys and wipe tests of the incoming and outgoing packages were available for review. Required surveys of the source exchange were also available for review.

Surveys of the patient at pre-treatment and post-treatment were available for review. In one case, the patient therapy was canceled because of the problems with the Nucletron unit. This documentation was made more clear in the records. In another case, the post-survey was completed by the therapist, but was omitted from the records. The therapist today documented that post-treatment survey in red ink and signed and initialed it with the date 6/26/98.

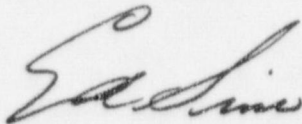
QUALITY MANAGEMENT PROGRAM

All required record keeping for the radiopharmaceutical therapy and HDR treatments were available and found to be complete to meet the obligations of the hospital.

There were several items discussed at the Radiation Safety Committee meeting concerning fees from the State and the NRC. One was that the State had mentioned in a symposium I attended that when they become an Agreement State that they would be sending in an invoice within 30 days to each licensee to cover the transfer of files from the NRC. The amount of the that cost was to be researched and passed on to the hospital as soon as knowledge is attained.

Please have the Radiation Safety Officer review the Medical Physics Survey form and document them by signing the enclosed survey sheet attached with each report, as well as the individual sheets for the Sealed Source Storage Site Survey Results, the Sealed Source Inventory, and the Sealed Source Leak Test. This will help satisfy the quarterly requirements of the RSQ.

If you should have any questions as to the content of this report or require any further assistance, please do not hesitate to contact me at our Cleveland office.



Ed Sims
Consultant

ES/bz

enclosure

Dose Calibrator Activity Linearity Check

Facility: St. Vincent Charity Hospital

Date: 6/26/98

Dose Calibrator & Model: Atom Lab 100

Calicheck Serial No.: A284

Dose Calibrator Serial No.: 966030/976052

Performed by: Myrna Salas

Source Configuration* 3 cc syringe

All readings must be taken at the lowest range setting available and converted to mCi units.

A** Tube Color	B** Displayed Activity		C*** Calibration Factor	D Product of B x C
Black Only	<u>204</u>	mCi	x 1.00	= <u>204</u>
Black & Red	<u>120</u>	mCi	x 1.685	= <u>202.2</u>
Black & Orange	<u>71</u>	mCi	x 2.85	= <u>202.3</u>
Black & Yellow	<u>16.7</u>	mCi	x 11.95	= <u>201.9</u>
Black & Green	<u>6.2</u>	mCi	x 32.3	= <u>200.2</u>
Black & Blue	<u>2.2</u>	mCi	x 90.8	= <u>199.7</u>
Black & Purple	<u>.305</u>	mCi	x 643	= <u>196.2</u>
Black & Purple/Red	<u>.165</u>	mCi	x 1188	= <u>196.5</u>
Black & Purple/Orange	<u>.100</u>	mCi	x 1947	= <u>194.7</u>
Black & Purple/Yellow	<u>.025</u>	mCi	x 7703	= <u>193.0</u>
Black & Purple/Green		mCi	x 20618	=
Black & Purple/Blue		mCi	x 53923	=
SUM				<u>1990.4</u>
SUM (From Column D)	<u>1990.4</u>		X 1.05 = <u>209.06</u>	= UPPER LIMIT
No. Entries (Column B)	<u>10</u>		X 0.95 = <u>189.15</u>	= LOWER LIMIT

Compare Column D data to upper and lower limits to confirm linearity.

*The source configuration to be used must be that which was used when the calibration factors in Column C were determined.

**Continue testing in sequence shown until the display is reduced to your minimum patient dose, 10 uCi or less, or as your regulatory agency requires. Use the number of entries in column B in calculating the upper and lower limits.

***The calibration factors for this column are specific to your dose calibrator and the source geometry used when determined. They can be found on data sheet #1 in your Calicheck Kit instruction manual.

MEDICAL PHYSICS SURVEY PERSONNEL DOSIMETRY SUMMARY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

VISIT DATE: 8/6/97 8/6/97 2/10/98 6/26/98
REVIEWED THROUGH: 4/19/97 7/19/97 10/19/97 1/19/98

ID #	NAME		1	2	3	Q	4	5	6	Q	7	8	9	Q	10	11	12	Q	YEAR
1). 4	Bailey, Claudette	WB	40	40	60	140	40	40	20	100	20	30	30	80	20	20	20	60	380
		TLD	70	30	90	190	60	60	30	150	30	M	M	30	60(A)	M	M	60(A)	430
2). 5	Khan, Azmath	WB	M	10	M	10	M	M	M	M	M	M	M	M	M	M	M	M	10
		TLD	M	40	M	40	M	M	30	30	M	M	M	M	M	M	M	M	70
3). 6	Balonek, Myrna	WP	60	60	40	160	40	20	30	90	20	20	20	60	30	20	20	60	370
		TL	180	110	100	390	130	90	90	310	90	60	70	220	100	60	100	260	1180

Current NVLAP Approved Dosimetry Badge Vendor: Siemens to Landauer (~8/96)

(A) Estimated exposure.

(B) Change over in vendors from Siemens to Landauer.

Facility ALARA Exposure Action Level:

	Level 1	Level 2
Whole Body TEDE	125 mrem	375 mrem
Organs or tissues, Other Than Eye, DDE & CDE	1250 mrem	3750 mrem
Lens of EYE, EDE	375 mrem	1125 mrem
Extremity or Skin, SDE	1250 mrem	3750 mrem

MEDICAL PHYSICS SURVEY **PERSONNEL DOSIMETRY SUMMARY**

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

VISIT DATE: 6/26/98

REVIEWED THROUGH: 4/19/98

ID #	NAME	1	2	3	Q	4	5	6	Q	7	8	9	Q	10	11	12	Q	YEAR
1). 4	Bailey, Claudette																	
	WB	20	20	40	80	40												
	TLD	30	40	M	70	150												
2). 5	Khan, Azmath																	
	WB	M	M	M	M	M												
	TLD	M	M	M	M	M												
3). 6	Balonsk, Myrna																	
	WB	30	20	30	80	30												
	TLD	130	120	80	330	90												

Current NVLAP Approved Dosimetry Badge Vendor: Siemens to Landauer (=8/96)

(A) Estimated exposure.

Facility ALARA Exposure Action Level:

(B) Change over in vendors from Siemens to Landauer.

	Level 1	Level 2
Whole Body TEDE	125 mrem	375 mrem
Organs or tissues, Other Than Eye, DDE & CDE	1250 mrem	3750 mrem
Lens of EYE, EDE	375 mrem	1125 mrem
Extremity or Skin, SDE	1250 mrem	3750 mrem

MEDICAL PHYSICS SURVEY SURVEY METER EVALUATION

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

Type:	Ion	G-M	G-M	Ion
Mfg.:	Victoreen	Victoreen	Victoreen	Victoreen
Model No.:	692	491	290	740F
Serial No.:	187	2309M	235	2020
Ck Source & Geometry	212uCi Cs-137 active end on mark on front	Integral Source	Integral Source	212uCi Cs-137 std. vial bottom against probe end

Calibrated	10/9/97	11/30/95	5/17/96	5/3/95
Calibrated	11/5/97	8/28/96	4/22/97	5/7/96
Calibrated	12/9/97	8/4/97	4/1/98	4/22/97

	Batt..mr/hr..Zero	Batt..mr/hr	Batt..mr/hr	Batt..mr/hr..Zero
Date				
5/4/94	OK - 10 - OK	OK - 1.1	OK - 1.0	OK - 9.5 - OK
8/3/94	OK - 11 - OK	OK - 1.2	OK - 1.0	OK - 7.5 - OK*
11/2/94	OK - 11 - OK*	OK - 1.2	OK - 1.2*	OK - 8.5 - OK
2/1/95	OK - 11 - OK	OK - 1.2*	OK - 1.0	OK - 9.0 - OK
8/1/95	OK - 11 - OK	OK - 1.2	OK - 1.0	OK - 9.0 - OK
11/15/95	OK - 10 - OK	OK - 1.4*	OK - 1.0	OK - 8.0 - OK
2/5/96	OK - 10 - OK	----	OK - 1.0	OK - 7.5 - OK
5/7/96	OK - 10 - OK*	OK - 1.6	OK - 1.0*	OK - 7.5 - OK
8/15/96	Broken	OK - 1.2	OK - 1.0	Dead
11/14/96	OK - 10 - OK	OK - 1.0	OK - 0.8	Weak
2/19/97	Weak OK - 10 - OK	OK - 1.0	OK - 0.8	OK - 8.0 - OK
5/7/97	OK - 10 - OK	OK - 1.0	OK - 0.8	OK - 6.0 - OK
8/6/97r	OK - 10 - OK	(A)	OK - 0.8	OK - 8.5 - OK
11/10/97	RETIRED	OK - 1.5	OK - 0.8	OK - 7.5 - OK
2/10/98	---	OK - 1.3	OK - 0.8	OK - 7.0 - OK
6/26/98r		OK - 1.4	OK - 1.2	RETIRED

MEDICAL PHYSICS SURVEY DOSE CALIBRATOR EVALUATION ACCURACY TEST

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

Date	Cs-137 (17.4) Cal/Disp/% (uCi)	Ba-133 (7.2) Cal/Disp/% (uCi)	Co-57 (29.3) Cal/Disp/% (uCi)	Sealed Source Set Used	Test/Tester	Bkg Zero	Linearity Test
11/4/93	183/178/-2.7	186/186/0	1.70/1.74/+ .6	#2	OK	OK	*
2/3/94	182/177/-2.7	181/184/+1.7	1.32/1.37/+3.8	#2	OK	OK	84.9mCi - 9.5μCi
5/4/94	156/155/- .6	97/96.4/- .6	1.00/1.02/+ 2	#1	OK	OK	44.2mCi - 5.6μCi
8/3/94	---	---	---	--	OK	OK	63.6mCi - 8.3μCi
11/2/94	---	---	---	--	OK	OK	42.5mCi - 5.4μCi
2/1/95	178/172/-3.4	170/171/+ .6	.530/.545/+ 2.8	#2	OK	OK	62.5mCi - 8μCi
5/1/95	---	---	---	--	--	--	47mCi - 5.8μCi
8/1/95	---	---	---	--	--	--	47.8mCi - 24μCi*
11/15/95	175/168/-4.0	162/161/-0.6	.255/.259/+ 1.6	#2	OK/E.Sims	OK	61.5mCi - 30μCi
2/5/96	---	---	---	--	OK	OK	47mCi - 23μCi*
5/7/96	---	---	---	--	OK	OK	174.1mCi - 23μCi
8/15/96	148/144/-2.7	84/81.6/-2.9	.120/.119/-0.8	#1	OK/F.Bloe	OK	234mCi-29.1μCi*
11/14/96	---	---	---	--	--	OK	188mCi-23.7μCi
5/7/97	---	---	---	--	--	OK	227mCi-11.4μCi
8/6/97	167/158/-5.4	146/138/-5.5	---	#2	OK/E. Sims	OK	191.4mCi-24.6μCi
11/10/97	---	---	---	--	--	OK	141.5mCi-17.6μCi
2/10/98	---	---	---	--	--	--	187mCi-25μCi
6/26/98	165/154/-6.7%	138/131/-5.1%	---	#2	OK/E. Sims	OK	204 mCi - 25 μCi

Set #1 NES 369; Cs-137 S/N 3560380A-14, Ba-133 S/N 3580380A-20, Co-57 S/N A0507
Set #2 NES 369; Cs-137 S/N S356003-31, Ba-133 S/N S358002-07, Co-57 S/N A0566

MEDICAL PHYSICS SURVEY DOSE CALIBRATION EVALUATION CONSTANCY READINGS

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

		Tc-99m (33.6)	Ga-67 (30.2)	I-131 (22.2)	Xe-133 (19.0)	Tl-201 (18.8)	Cs-137 (17.4)	In-111 (12.7)	I-123 (10.1) (A)
		uCi	uCi	uCi	uCi	uCi	uCi	uCi	uCi
Date									
8/3/94	B	271	245	180	153	152	—	103	81.8
	M	273	246	180	154	152	141	103	82.1
2/1/95	B	271	243	178	153	151	139	102	81
	M	271	243	178	152	151	140	102	81
5/1/95	B	267	240	177	151	150	139	101	80
11/15/95	B	263	236	173	148	147	136	99	79
	M	263	237	174	148	147	136	99	79
2/5/96	B	261	235	173	148	146	135	99	79
	M	261	235	173	148	146	135	99	79
5/7/96	B	259	233	171	146	144	134	98	78
	M	259	232	171	146	145	134	98	78
8/15/96	B	257	231	170	145	144	133	97	77
	M	257	231	170	145	144	133	97	77
11/14/96	R	255	230	169	144	143	132	96	77
2/19/97	B	253	228	167	143	142	131	95.6	76
8/6/97	B	249	224	164	140	139	129	94	74
11/10/97r	B	248	221	162	139	138	127	92	74
2/10/98	B	244	220	161	138	136	126	92	73
6/26/98	B	242	217	159	136	135	125	91	72

(A) I-123 precalibrated button adjusted from 14.4 to 10.1 on 11/4/93.

Source: Cs-137
Model: NES-356

Activity: 212 uCi
Calibration: 5/22/78

MEDICAL PHYSICS SURVEY **GAMMA CAMERA EVALUATION**

FACILITY: St. Vincent Charity Hospital

MODEL No.: Summit Nuclear T-22

LOCATION: Cleveland, OH

ROOM No.: Nuclear Medicine

Date	PHA (C)(F)	UNCORR. SENSIT. CPM/ μ CI	SATUR. DUFC OFF-ON	CORR FLOOD	INTRIN RES-DIR	FLOODS OFF PEAK	DUFC LOSS	LINEARITY	MECHANICAL
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MEDICAL PHYSICS SURVEY GAMMA CAMERA EVALUATION

FACILITY: St. Vincent Charity Hospital

MODEL No.: Picker SX300

LOCATION: Cleveland, OH

ROOM No.: Nuclear Medicine

Date	PHA	INTEN (B/C)	UNCORR SENSIT KCTS/ μ CI (D)	SATUR ON - OFF	OFF PEAK FLOODS	INTRIN RES-DIR (E)	UNIFOR CORR LOSS	LINEARITY
2/4/92	AUTO	350/-4	295	142/145	OK	3.0mm - 2.5mm	0%	OK
2/3/93	AUTO	350/-6	329	145/158	POOR *	3.5mm-3.0mm	8.6%	OK

(A) 2×10^5 counts, 20% window, Auto - Iris on, 4 on 1 format

(B) Photo factor setting; ask personnel

(C) Film density; auto expose meter

(D) LEAP collimator, Z circuitry off

(E) Use NMA bar phantom, Z circuitry on

(F) Off Peak Study: low = 122, 20% high = 153, 20%, Z circuitry off

MEDICAL PHYSICS SURVEY SCINTILLATION WELL EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Compac 120
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	H.V.	(A) CPM	(C) RESOL	(D) CHI ²
5/3/93	Ce-137	AUTO	11517	8%	8.71
8/5/93	Ce-137	AUTO	10971	8%	6.13
11/4/93	Ce-137	AUTO	11322	7%	4.59
2/3/94	Ce-137	AUTO	11213	7%	9.90
5/4/94	Ce-137	AUTO	11224	6%	5.67
8/3/94	Ce-137	AUTO	11046	8%	10.4
11/2/94	Ce-137	AUTO	11072	6%	12.5
2/5/95	Ce-137	AUTO	10951	7%	5.64
5/1/95	Ce-137	AUTO	11001	--	2.65
11/15/95	Ce-137	AUTO	10828	7%	5.34
5/7/96	Ce-137	AUTO	10623	7%	10.3
8/15/96	Ce-137	AUTO	10801	7%	8.31
8/6/97	Ce-137	AUTO	10188	7%	10
11/10/97r	Ce-137	AUTO	10187	7%	10
6/26/98	Ce-137	AUTO	9963	6%	10

(A) 1.0uCi Ce-137 Std. (yellow tube) green end down. Place tube in well slot. Press "Ce-137 Calib." button.

(B) Green end up. Place tube in well slot. Press "STAG TEST" button.

(C) Normal Resolution: 6-12%

(D) Normal Range: 3.325-16.919

(E) Counting efficiency determined 10/21/81 using Co-57 and the above PHA setting was found to be 91%. $DPM = CPM \times CF$, $CF = 1.1$
MDA = 52 DPM for 1 min. at 3 S.D. Isotope Open (20 - 400 Kev)

MEDICAL PHYSICS SURVEY SCINTILLATION PROBE EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Spectroscaler 4R
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	(B) H.V.	(E) CPM	(C) RESOL	(D) CHF	TEST
11/10/92	Cs-137	548	25980	11.3%	6.73	
5/4/93	Cs-137	540	21182	10.6%	5.99	3599
8/5/93	Cs-137	540	30991	11.0%	8.31	3600
8/3/94	Cs-137	542	60452	12.1%	*	3600
11/2/94	Cs-137	542	34469	7.6%	2.16	3600 (G)
2/1/95	Cs-137	542	27952	10.5%	4.30	3600
8/15/96	Cs-137	547	46540	11%	---	3600

(A) St. V's 212 uCi Cs-137 Std. on cross hairs. H.V. takes minutes to stabilize.

(B) Range: 1, LLD-652, ULD-672

(C) NORMAL RESOLUTION: 8%-12%

(D) NORMAL RANGE: 0.711 - 9.488

(E) Bioassay: % Window Mode; Peak = 364, window = 100; Time = 2 min.; Eff. = 0.06%; 53 cpm - .04 uCi
Measured at collimator face. Determined 5/14/90.

(F) Bioassay: For I-125; Peak = 325; LL = 200; U/L = 500, mev Range = 0.1; 114 cpm = .12 uCi; Measured at
collimator face. Determined 2/4/92. MDA for probe on I-125 = 0.00133 at 3 S.D. for 1 min.

(G) Uptake scaler repaired 8/94.

MEDICAL PHYSICS SURVEY VENTILATION DATA

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE	FUME HOOD (CFM)	CAMERA ROOM (CFM)	DOOR
2/5/96	480	889	Neg.
8/15/96	500	900	Neg.

XENON-133 PROGRAM INACTIVE

-
- (A) Fume Hood: Set opening at 18". Measure flow at top of opening in the middle. $\text{FPM} \times 3.375 \text{ ft} = \text{CFM}$
(B) Camera Room: Determine mid grill maximum FPM. $\text{FPM} \times 1.27 \text{ ft}^2$

MEDICAL PHYSICS SURVEY BRACHYTHERAPY & OTHER SEALED SOURCE STORAGE SITE SURVEYS

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

LOCATION OF SURVEY AND RESULTS IN MREM/HR

DATE	SURVEY METER (Serial Number)	A	B	D	E	F	SURVEYOR
8/5/93	235	.08	.02	(D)			FB
11/4/93	235	.06	.02	(D)	0.6		ES
2/3/94	235	1.2	.02	(D)	0.7		ES
5/4/94	235	.2	.02	(D)	0.5		FB
8/3/94	235	0.5	.02	(D)	0.35		ES
11/2/94	235	0.1	.01	(D)	0.30	.03	ES
2/1/95	235	0.3	.02	(D)	0.20	.50	ES
5/1/95	255	0.1	.02	(D)	0.2	.02	FB
8/1/95	235	0.1	.02	(D)	0.2	.02	FB
11/15/95	235	0.14	.01	(D)	(E)	.02	ES
2/5/96	235	0.1	.02	(D)	0.1	.02	FB
5/7/96	235	0.1	.02	(D)	(E)	.02	ES
11/14/96	235	0.1	.02	(D)	---	.02	FB
2/19/97	235	0.1	.02	(D)	---	.02	FB
5/7/97	235	0.1	.04	(D)	---	.02	FB
8/6/97	235	0.15	.03	(D)	---	.02	ES
11/10/97r	235	0.2	.02	(D)	---	.02	ES
2/10/98	235	0.1	.02	(D)	---	.02	FB
6/26/98	2309M	0.4	.02	---	---	.02	ES

LOCATION KEY:

A. Fume hood at plane of glass door. Side to side and top to bottom.

B. Background

C. Xenon bag in storage at time of survey.

*D. Ir-192 survey performed and signed off by Dr. Kim, Assistant RSO, or Dr. Porter, RSO.

E. Co-57 flood case in hot lab. Moved to storage room prior to 11/15/95.

F. Door of storage room in nuclear medicine.

RETAIN THIS RECORD IN COMPLIANCE WITH 10 CFR 35.59(i)

RSO Signature

Robert J. Porter

MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

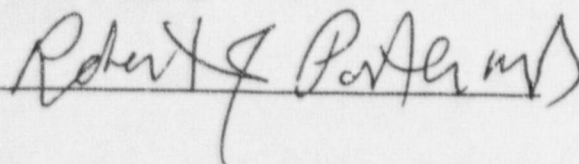
Nuclide:	Cs-137	Co-57	Co-57	Cs-137	Cs-137
Type:	Calib. Std.	Flood Source	Button	Yellow Disc	Calib. Tube
Location:	Hot Lab	Storage Room 401 MBq	Storage Room	Storage Room	Compac
Assay: (Date)	212uCi 5/22/79	10.5mCi 6/21/91	50uCi 1/92	10uCi 1981	1uCi 1981
Mfg:	NEN	Syncor	Dupont	Victoreen	Picker
Serial No.:	319-235-14	CIS 987	NES-289		658200
Model:	NES-356				

DATE

11/2/94	X	X	X	X	X
2/1/95	X	X	X	X	X
5/1/95	X	X	X	X	X
8/1/95	X	X	X	X	X
11/15/95	X	X	X	X	X
2/5/96	X	X	X	X	X
5/7/96	X	X	X	X	X
8/15/96	X	X	X	X	X
11/14/96	X	X	X	X	X
2/19/97	X	X	X	X	X
5/7/97	X	X	X	X	X
8/6/97	X	X	X	X	X
11/10/97	X	X	X	X	X
2/10/98	X	X	X	X	X
6/26/98	X	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Nuclide:	Co-57	Cs-137	Ba-133
Type:	Flood	Vial E	Vial E
Location:	Storage Room	Storage Room	Storage Room
Assay:	384MBq	190uCi	271uCi
(Date)	7/30/89	7/8/76	5/1/80
Mgr:	CIS	NEN	NEN
Serial No.:	858	231-08313	3580580 A-45

Model:

DATE

11/2/94	X	X	X
2/1/95	X	X	X
5/1/95	X	X	X
8/1/95	X	X	X
11/15/95	X	X	X
2/5/96	X	X	X
5/7/96	X	X	X
8/15/96	X	X	X
11/14/96	X	X	X
2/9/97	X	X	X
5/7/97	X	X	X
8/6/97	X	X	X
11/10/97	X	X	X
2/10/98	X	X	X
6/26/98	X	X	X

X - INDICATES SOURCE INVENTORIED

(A) Source disposed as ordinary waste 4/17/96

RSO Signature

Robert S. Porter MD

MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

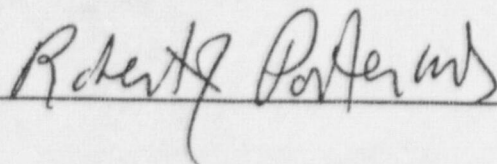
Nuclide:	Co-57	Co-57	Co-57	Co-57
Type:	Flood	Spot Marker	Ward	Flood
Location:	Storage Room	Storage Room	Storage Room	Storage Room
Assay:	389MBq	50 uCi	10.2 MBq	555 MBq
(Date)	10/9/92	10/25/94	10/96	10/3/96
Mgr:	CIS	Biodex	---	CIS
Serial No.:	474	099-289	W06238-4-101	A5571
Model:		NES-289	---	---

DATE

11/2/94	X	X		
2/1/95	X	X		
5/1/95	X	X		
8/1/95	X	X		
11/15/95	X	X		
2/5/96	X	X		
5/7/96	X	X		
8/15/96	X	X		
11/14/96	X	X	X	X
2/19/97	X	X	X	X
5/7/97	X	X	X	X
8/6/97	X	X	X	X
11/10/97	X	X	X	X
2/10/98	X	X	X	X
6/26/98	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

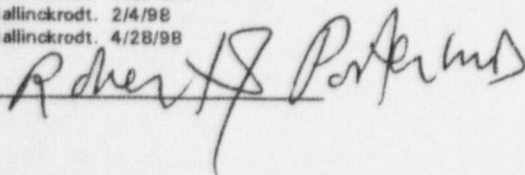
Nuclide:	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192
Type:	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source
Location:	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader
Assay: (Date)	11.7 Ci 3/12/97	11.0 Ci 6/5/97	11.7 Ci 9/22/97	12.5 Ci 12/16/97	13.0 Ci 3/6/98
Mgr:	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.
Serial No.:	217	912	897	032	973
Model:					DRN 07735

DATE					
11/15/95					
2/5/96					
5/7/96					
8/15/96					
11/14/96					
2/19/97					
5/7/97	X				
8/6/97	(N)	X			
11/10/97		(O)	X		
2/10/98			(P)	X	
6/26/98				(Q)	X

X - INDICATES SOURCE INVENTORIED

(N) Returned to Mallinckrodt. 6/26/97
(O) Returned to Mallinckrodt. 10/21/97
(P) Returned to Mallinckrodt. 2/4/98
(Q) Returned to Mallinckrodt. 4/28/98

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE LEAK TEST ANALYSIS REPORT

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine
ATTENTION: Myrna Balonek

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and reveals removable contamination was less than 0.005 uCi, unless otherwise noted, when compared against NIST traceable standards.

Source: Cs-137 Calibration Standard, 212 uCi, 5/22/78, NEN, 319-235-14

Date:	2/19/97	5/7/97	8/6/97	11/10/97	2/10/98	6/26/98r
Wipe No.:	1381	1872	2623	3271	3765	4695
MDA (uCi):	2E-04	2E-04	2E-04	2E-04	2E-04	2E-04
Net CPM:	0	0	0	0	8	0
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	1,500	1,500	1,500	1,500	1,500	1,500
Analyst:	F. Bloe	F. Bloe	E. Sims	E. Sims	F. Bloe	E. Sims

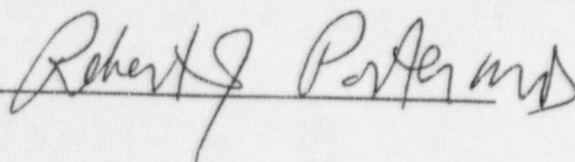
Source: Co-57 Flood, 555 MBq, 10/3/96, CIS A5571

Date:	2/19/97	5/7/97	8/6/97	11/10/97	2/10/98	6/26/98r
Wipe No.:	1382	1873	2624	3272	3766	4696
MDA (uCi):	3E-05	3E-05	3E-05	3E-05	3E-05	3E-05
Net CPM:	0	0	0	0	0	10
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	10,160	10,160	10,160	10,160	10,160	10,160
Analyst:	F. Bloe	F. Bloe	E. Sims	E. Sims	F. Bloe	E. Sims

Performed by: Associates in Medical Physics, LLC

Under License No. : NRC #34-26645-01

RSO Signature



MEDICAL PHYSICS SURVEY

DATE: 6/26/98 FACILITY: St. Vincent Charity Hospital

The attached Medical Physics Survey is a review of the Radiation Safety Program. This survey satisfies the Radiation Safety Officer's (RSO) obligations under ALARA. The RSO's review of records identified under 10 CFR 35 was performed with regard to the following items:

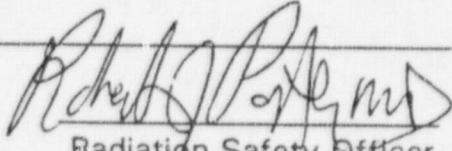
- Sealed Source Storage Site Survey Results, 10 CFR 35.59 (i). See pg. 11.
- Quarterly Physical Inventory of Sealed Sources, 10 CFR 35.59 (g). See pp. 12-15.
- Sealed Source Leak Tests, 10 CFR 35.59 (d). See pp. 16.

Other suggested recommendations for corrections are listed below:

ITEM
(if any)

Correction

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____


Radiation Safety Officer

Decommission Records per 10 CFR 30.35(g)

10CFR30.35(g) states, "Each person licensed under this part or Parts 32 through 35 of this chapter shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the Commission. If records of relevant information are kept for other purposes, references to these records and their locations may be used"

The following documents relevant to decommissioning of the facility as of _____ (Date) can be found in the designated locations:

DOCUMENT DESCRIPTION	LOCATION
Spill records limited to instances where contamination remains in the restricted area(s).	N/A
Spill records limited to instances where contamination remains outside of the restricted area(s).	N/A
Restricted area diagrams (scan rooms, hot lab, sealed source storage, waste storage room) including modifications and formally restricted area diagram. Diagrams of areas where radioactive materials are used or stored.	REFER TO RECORDS OF LICENSE APPLICATIONS MAINTAINED IN THE NUCLEAR MEDICINE DEPARTMENT. CONTACT RADIATION SAFETY OFFICER IF NEEDED FOR ASSISTANCE.
Location of pipes which may be subject to contamination.	N/A
All areas where wastes have been buried as documented under 10CFR20.2108.	N/A
Records of the cost estimate for the decommissioning funding plan.	N/A

Dose Calibrator Activity Linearity Check

Facility: St. Vincent Charity Hospital

Date: 6/26/98

Dose Calibrator & Model: Atom Lab 100

Calichek Serial No.: A284

Dose Calibrator Serial No.: 966030/976052

Performed by: Myrna Balonick

Source Configuration* 3 cc syringe

All readings must be taken at the lowest range setting available and converted to mCi units.

A** Tube Color	B** Displayed Activity		C*** Calibration Factor	D Product of B x C
Black Only	<u>204</u>	mCi x	<u>1.00</u>	= <u>204</u>
Black & Red	<u>120</u>	mCi x	<u>1.685</u>	= <u>202.2</u>
Black & Orange	<u>71</u>	mCi x	<u>2.85</u>	= <u>202.3</u>
Black & Yellow	<u>16.7</u>	mCi x	<u>11.95</u>	= <u>201.9</u>
Black & Green	<u>6.2</u>	mCi x	<u>32.3</u>	= <u>200.2</u>
Black & Blue	<u>2.2</u>	mCi x	<u>90.8</u>	= <u>199.7</u>
Black & Purple	<u>.305</u>	mCi x	<u>643</u>	= <u>196.4</u>
Black & Purple/Red	<u>.165</u>	mCi x	<u>1188</u>	= <u>196.5</u>
Black & Purple/Orange	<u>.100</u>	mCi x	<u>1947</u>	= <u>194.7</u>
Black & Purple/Yellow	<u>.025</u>	mCi x	<u>7703</u>	= <u>193.0</u>
Black & Purple/Green	<u>.014</u>	mCi x	<u>20618</u>	=
Black & Purple/Blue	<u>.005</u>	mCi x	<u>53923</u>	=
			SUM	<u>1990.9</u>

SUM (From Column D) 1990.9 = 199.1 X 1.05 = 209.06 = UPPER LIMIT
10

No. Entries (Column B) X 0.95 = 189.15 = LOWER LIMIT

Compare Column D data to upper and lower limits to confirm linearity.

*The source configuration to be used must be that which was used when the calibration factors in Column C were determined.

**Continue testing in sequence shown until the display is reduced to your minimum patient dose, 10 uCi or less, or as your regulatory agency requires. Use the number of entries in column B in calculating the upper and lower limits.

***The calibration factors for this column are specific to your dose calibrator and the source geometry used when determined. They can be found on data sheet #1 in your Calichek Kit instruction manual.

ASSOCIATES IN MEDICAL PHYSICS, LLC

Consultant's Report - Nuclear Medicine

5288 Transportation Blvd.
Cleveland, OH 44125
(216) 663-7000

FACILITY: St. Vincent Charity Hospital **DATE OF VISIT:** 9/4/98

LOCATION: Cleveland, OH

DOCTORS: Robert Porter, M.D., RSO; D. Kim, M.D.

PHYSICIST: Ron Scala

TECHNOLOGISTS: Myrna Balonek RT(NM); Claudette Bailey, RT (NMT)
Azmath Khan, RTNM, Barbara Craighead (Rad. Therapy)

The quality assurance program at this facility was conducted by reviewing all records and documents required by the various regulatory agencies. Nuclear medicine instrumentation was checked for proper operation. Details of the various evaluations are contained in the pages of this report. Items of special regard are discussed below.

LICENSING

Status of the NRC license was checked. No changes were needed in the document at this time. Notification to the NRC to remove Dr. Hare had been submitted by Ms. Kouris. A copy had been provided to our office for our files.

Licensing of radioactive materials with the State was checked. No changes were needed on the State license at this time.

PERSONNEL DOSIMETRY

Film badge records were reviewed through the end of the second quarter of this year. All individuals were under the Level I limits of the ALARA program, within the nuclear medicine department.

ADMINISTRATIVE/EDUCATION

A meeting of the Radiation Safety Committee was attended. Please refer to the minutes of the meeting for a list of subjects discussed.

SEALED SOURCES

Sealed sources were inventoried and logged on the attached inventory form. Leak

tests were performed on the camera Co-57 flood source and dose calibrator Cs-137 reference standard. Attached are reports indicating no removable contamination was found.

It was explained an inner-department memo had been received from the State of Ohio which would authorize the disposal of Co-57 sources, under given conditions. A copy of the memo is attached for reference. One of the department's Co-57 flood sources qualified for disposal under the State authorization. Therefore this source was surveyed, found to be at background, defaced and discarded to the trash. Documentation of this disposal is noted in a footer attached to the inventory sheets within this report.

SURVEYS

Area survey records were reviewed and found to be adequately maintained. Records of the receipt of radioactive materials were acceptable. Records of the return of radioactive materials were also properly maintained.

With regard to the return of packages to the local radiopharmacy supplier a recommendation was made again at this time. Personnel were indicating when a package was being returned that did **not** contain radioactive materials. It was suggested that the term "no ram" could be entered in the outgoing log to show when an empty package was being shipped. The alternative notation being used at this time was also acceptable.

POSTINGS/NOTICES

Postings required by the Federal and State authorities were reviewed and found to be adequately maintained. The new posting required by the State of Ohio was also on display at this time.

EQUIPMENT

GM survey meters were checked for operability and found to be functioning satisfactorily. The Victoreen GM detector with serial number 235 was calibrated on 4/1/98. The instrument was apparently inadvertently calibrated again on 6/19/98. This was discussed with department personnel. It could not be determined as to why two calibrations were performed within the same year unless there was some confusion as to which meter should be sent in for recalibration. The alternate GM detector with serial number 2309M was calibrated on 8/26/98. An attempt should be made to avoid duplicate calibrations in the future as costs are incurred by AMP when this occurs.

Activity linearity evaluation on the dose calibrator was performed as of this date.

Attached are the results showing the instrument responded linearly throughout the range of activities assayed.

The Picker Spectroscaler 4R was checked for operability. This unit appeared to be functioning satisfactorily by reviewing daily calibration status prior to thyroid uptake evaluations. An attempt was made to calibrate the unit with a Cs-137 reference standard. This was essentially unsuccessful in that the high voltage stability on the unit has historically not been very good. However, the in-house records seem to indicate the instrument worked satisfactorily for thyroid evaluations.

The gamma cameras were apparently operating in a stable manner. Department personnel indicated there were no particular problems with them. Daily QC studies were being performed.

RADIOPHARMACEUTICAL THERAPY

Two patients had been treated in the interim since our last visit. Paperwork associated with these thyroid treatments appeared to be satisfactory.

BRACHYTHERAPY HDR

Documentation associated with the Brachytherapy HDR program was reviewed and found to be adequately maintained. A new source had been installed on 7/28/98. The spent source from the previous quarter was yet to be shipped. Therefore the shipping documentation associated with this source was not generated yet for review. This will be checked at the time of our next evaluation. No deficiencies in the paperwork were noted at this time.

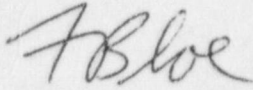
QUALITY MANAGEMENT PROGRAM

The QMP for radiopharmaceutical therapies was properly maintained. Comparable documentation was available for the Brachytherapy procedures as well.

It was explained that the State license had been issued to the hospital for about three months at this point in time. The hospital most likely would be inspected by the State in the very near future. Items addressed by State inspectors were reviewed with department personnel with an attempt to prepare them for the inspection.

Please have the Radiation Safety Officer review the Medical Physics Survey form and document them by signing the enclosed survey sheet attached with each report, as well as the individual sheets for the Sealed Source Storage Site Survey Results, the Sealed Source Inventory, and the Sealed Source Leak Test. This will help satisfy the quarterly requirements of the RSO.

If you should have any questions as to the content of this report or require any further assistance, please do not hesitate to contact me at our Cleveland office.

A handwritten signature in cursive script, appearing to read "F. Bloe".

Frank Bloe
Consultant

FB/dh

enclosure

Dose Calibrator Activity Linearity Check

Facility: St. Vincent Charity

Date: 9-4-98

Dose Calibrator & Model: Atom Lab 100

Calicheck Serial No.: A284

Dose Calibrator Serial No.: 966030/976052

Performed by: _____

Source Configuration* 3 cc syringe

All readings must be taken at the lowest range setting available and converted to mCi units.

A** Tube Color	B** Displayed Activity		C*** Calibration Factor	D Product of B x C
Black Only	<u>187.2</u>	mCi	x 1.00	= <u>187.2</u>
Black & Red	<u>109.4</u>	mCi	x 1.685	= <u>184.3</u>
Black & Orange	<u>64.6</u>	mCi	x 2.85	= <u>184.1</u>
Black & Yellow	<u>15.11</u> 15.4	mCi	x 11.95	= <u>180.0</u>
Black & Green	<u>5.67</u>	mCi	x 32.3	= <u>183.1</u>
Black & Blue	<u>2.01</u>	mCi	x 90.8	= <u>182.5</u>
Black & Purple	<u>.284</u>	mCi	x 643	= <u>182.6</u>
Black & Purple/Red	<u>.1533</u>	mCi	x 1188	= <u>182.1</u>
Black & Purple/Orange	<u>.0926</u>	mCi	x 1947	= <u>180.3</u>
Black & Purple/Yellow	<u>.0236</u>	mCi	x 7703	= <u>181.8</u>
Black & Purple/Green		mCi	x 20618	=
Black & Purple/Blue		mCi	x 53923	=
	<u>183.2</u>		SUM	<u>1832.0</u>
SUM (From Column D)	<u>256.48</u> <u>256.48</u>		X 1.05 = <u>269.22</u>	= UPPER LIMIT
No. Entries (Column B)			X 0.95 = <u>213.6</u>	= LOWER LIMIT

Compare Column D data to upper and lower limits to confirm linearity.

*The source configuration to be used must be that which was used when the calibration factors in Column C were determined.

**Continue testing in sequence shown until the display is reduced to your minimum patient dose, 10 uCi or less, or as your regulatory agency requires. Use the number of entries in column B in calculating the upper and lower limits.

***The calibration factors for this column are specific to your dose calibrator and the source geometry used when determined. They can be found on data sheet #1 in your Calicheck Kit instruction manual.

MEDICAL PHYSICS SURVEY

DATE: 9/4/98

FACILITY: St. Vincent Charity Hospital

The attached Medical Physics Survey is a review of the Radiation Safety Program. This survey satisfies the Radiation Safety Officer's (RSO) obligations under ALARA. The RSO's review of records identified under 10 CFR 35 was performed with regard to the following items:

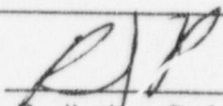
- Sealed Source Storage Site Survey Results, 10 CFR 35.59 (i). See pg. 11.
- Quarterly Physical Inventory of Sealed Sources, 10 CFR 35.59 (g). See pp. 12-15.
- Sealed Source Leak Tests, 10 CFR 35.59 (d). See pp. 16.

Other suggested recommendations for corrections are listed below:

ITEM
(if any)

Correction

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____



Radiation Safety Officer

MEDICAL PHYSICS SURVEY PERSONNEL DOSIMETRY SUMMARY

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

VISIT DATE: 6/26/98 9/4/98
 REVIEWED THROUGH: 5/19/98 7/19/98

ID #	NAME	1	2	3	Q	4	5	6	Q	7	8	9	Q	10	11	12	Q	YEAR
1). 4	Bailey, Claudette																	
	WB	20	20	40	80	40	30	50	120									
	TLD	30	40	M	70	150	50	M	200									
2). 5	Khan, Azmath																	
	WB	M	M	M	M	M	M	M	M									
	TLD	M	M	M	M	M	M	M	M									
3). 6	Balonek, Myrna																	
	WB	30	20	30	80	30	20	30	80									
	TLD	130	120	80	330	90	70	50	210									

Current NVLAP Approved Dosimetry Badge Vendor: Siemens to Landauer (=8/96)

- (A) Estimated exposure.
 (B) Change over in vendors from Siemens to Landauer.

Facility ALARA Exposure Action Level:

	Level 1	Level 2
Whole Body TEDE	125 mrem	375 mrem
Organs or tissues, Other Than Eye, DDE & CDE	1250 mrem	3750 mrem
Lens of EYE, EDE	375 mrem	1125 mrem
Extremity or Skin, SDE	1250 mrem	3750 mrem

MEDICAL PHYSICS SURVEY SURVEY METER EVALUATION

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

Type:	G-M	G-M
Mfg.:	Victoreen	Victoreen
Model No.:	491	290
Serial No.:	2309M	235
Ck Source & Geometry	Integral Source	Integral Source

Calibrated	8/28/96	4/22/97
Calibrated	9/4/97	4/1/98
Calibrated	8/26/98	6/19/98

	Batt...mr/hr	Batt...mr/hr
Date		
8/3/94	OK - 1.2	OK - 1.0
11/2/94	OK - 1.2	OK - 1.2*
2/1/95	OK - 1.2*	OK - 1.0
8/1/95	OK - 1.2	OK - 1.0
11/15/95	OK - 1.4*	OK - 1.0
2/5/96	----	OK - 1.0
5/7/96	OK - 1.6	OK - 1.0*
8/15/96	OK - 1.2	OK - 1.0
11/14/96	OK - 1.0	OK - 0.8
2/19/97	OK - 1.0	OK - 0.9
5/7/97	OK - 1.0	OK - 0.9
8/6/97	(A)	OK - 0.9
11/10/97	OK - 1.5	OK - 0.9
2/10/98	OK - 1.3	OK - 0.9
6/26/98r	OK - 1.4	OK - 1.2
9/4/98r	OK - 1.4	OK - 1.0

MEDICAL PHYSICS SURVEY DOSE CALIBRATOR EVALUATION ACCURACY TEST

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Atom Lab 100
SERIAL No.: Console - 966030
Chamber - 976052

Date	Cs-137 (17.4) Cal/Disp/% (uCi)	Ba-133 (7.2) Cal/Disp/% (uCi)	Co-57 (29.3) Cal/Disp/% (uCi)	Sealed Source Set Used	Test/Tester	Bkg Zero	Linearity Test
2/3/94	182/177/-2.7	181/184/+1.7	1.32/1.37/+3.8	#2	OK	OK	84.9mCi - 9.5μCi
5/4/94	156/155/-1.6	97/96.4/-1.6	1.00/1.02/+2	#1	OK	OK	44.2mCi - 5.6μCi
8/3/94	----	----	----	--	OK	OK	63.6mCi - 8.3μCi
11/2/94	----	----	----	--	OK	OK	42.5mCi - 5.4μCi
2/1/95	178/172/-3.4	170/171/+1.6	.530/.545/+2.8	#2	OK	OK	62.5mCi - 8μCi
5/1/95	----	----	----	--	--	--	47mCi - 5.8μCi
8/1/95	----	----	----	--	--	--	47.8mCi - 24μCi*
11/15/95	175/168/-4.0	162/161/-0.6	.255/.259/+1.6	#2	OK/E.Sims	OK	61.5mCi - 30μCi
2/5/96	----	----	----	--	OK	OK	47mCi - 23μCi*
5/7/96	----	----	----	--	OK	OK	174.1mCi - 23μCi
8/15/96	148/144/-2.7	84/81.6/-2.9	.120/.119/-0.8	#1	OK/F.Bloe	OK	234mCi-29.1μCi*
11/14/96	----	----	----	--	--	OK	188mCi-23.7μCi
5/7/97	----	----	----	--	--	OK	227mCi-11.4μCi
8/6/97	167/158/-5.4	146/138/-5.5	----	#2	OK/E. Sims	OK	191.4mCi-24.6μCi
11/10/97	----	----	----	--	--	OK	141.5mCi-17.6μCi
2/10/98	----	----	----	--	--	--	197mCi-25μCi
6/26/98	165/154/-6.7%	138/131/-5.1%	----	#2	OK/E. Sims	OK	204 mCi - 25 μCi
9/4/98r	----	----	----	--	OK	OK	187 mCi - 23.6 μCi

Set #1: Cs-137, NES 369, S/N 3560380A-14; Ba-133, NES 358, S/N 3580380A-20;
Co-57, INITIALLY- NES 206, S/N A0507; CO-57 AFTER 11/1/97- NAS, Model 4202,
S/N A1477; Co-57 AFTER 1/1/98 - Model CR-165E, S/N S8221053-09
Set #2: Cs-137, NES 369, S/N S358003-31; Ba-133, NES 358, S/N S358002-07;
Co-57, INITIALLY - Model 4202, S/N A0566; Co-57 AFTER 8/1/97 - Model NES 206, S/N S206099-056
Set #3: Cs-137, NES 369, S/N 3560186A-21; Ba-133, NES 358, S/N S358010-001;
Co-57, INITIALLY - NAS, Model 4202, S/N A1477; AFTER 10/1/97 - Co-57, NES 206, S/N 206099-056

MEDICAL PHYSICS SURVEY DOSE CALIBRATION EVALUATION CONSTANCY READINGS

FACILITY: St. Vincent Charity Hospital

MODEL No.: Atom Lab 100

LOCATION: Cleveland, OH

SERIAL No.: Console - 966030
Chamber - 976052

		Tc-99m (33.6)	Ga-67 (30.2)	I-131 (22.2)	Xe-133 (19.0)	Tl-201 (18.8)	Cs-137 (17.4)	In-111 (12.7)	I-123 (10.1) (A)
		uCi	uCi	uCi	uCi	uCi	uCi	uCi	uCi
Date									
2/1/95	B	271	243	178	153	151	139	102	81
	M	271	243	178	152	151	140	102	81
5/1/95	B	267	240	177	151	150	139	101	80
11/15/95	B	263	236	173	148	147	136	99	79
	M	263	237	174	148	147	136	99	79
2/5/96	B	261	235	173	148	146	135	99	79
	M	261	235	173	148	146	135	99	79
5/7/96	B	259	233	171	146	144	134	98	78
	M	259	232	171	146	145	134	98	78
8/15/96	B	257	231	170	145	144	133	97	77
	M	257	231	170	145	144	133	97	77
11/14/96	B	255	230	169	144	143	132	96	77
2/19/97	B	253	228	167	143	142	131	95.6	76
8/6/97	B	249	224	164	140	139	129	94	74
11/10/97r	B	248	221	162	139	138	127	92	74
2/10/98	B	244	220	161	138	136	126	92	73
6/26/98	B	242	217	159	136	135	125	91	72
9/4/98	B	239	215	158	135	134	124	91	72

(A) I-123 precalibrated button adjusted from 14.4 to 10.1 on 11/4/93.

Source: Cs-137

Activity: 212 uCi

Model: NES-356

Calibration: 5/22/78

**MEDICAL PHYSICS SURVEY
GAMMA CAMERA EVALUATION**

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Summit Nuclear T-22
ROOM No.: Nuclear Medicine

Date	PHA (C)(F)	UNCORR. SENSIT. CPM/uCi	SATUR. DUFC OFF-ON	CORR FLOOD	INTRIN RES-DIR	FLOODS OFF PEAK	DUFC LOSS	LINEARITY	MECHANICAL
------	---------------	-------------------------------	--------------------------	---------------	-------------------	-----------------------	--------------	-----------	------------

MEDICAL PHYSICS SURVEY GAMMA CAMERA EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker SX300
ROOM No.: Nuclear Medicine

Date	PHA	INTEN (B/C)	UNCORR SENSIT KCTS/ μ Ci (D)	SATUR ON - OFF	OFF PEAK FLOODS	INTRIN RES-DIR (E)	UNIFOR CORR LOSS	LINEARITY
2/4/92	AUTO	350/-4	295	142/145	OK	3.0mm -2.5mm	0%	OK
2/3/93	AUTO	350/-6	329	145/158	POOR *	3.5mm-3.0mm	8.6%	OK

-
- (A) 2×10^5 counts, 20% window, Auto - Iris on, 4 on 1 format
 (B) Photo factor setting; ask personnel
 (C) Film density; auto expose meter
 (D) LEAP collimator, Z circuitry off
 (E) Use NMA bar phantom, Z circuitry on
 (F) Off Peak Study: low = 122, 20% high = 153, 20%, Z circuitry off

MEDICAL PHYSICS SURVEY SCINTILLATION WELL EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Compac 120
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	H.V.	(A) CPM	(C) RESOL	(D) CHI ²
8/5/93	Cs-137	AUTO	10971	8%	6.13
11/4/93	Cs-137	AUTO	11322	7%	4.59
4/3/94	Cs-137	AUTO	11213	7%	9.90
5/4/94	Cs-137	AUTO	11224	6%	5.67
8/3/94	Cs-137	AUTO	11046	8%	10.4
11/2/94	Cs-137	AUTO	11072	6%	12.5
2/5/95	Cs-137	AUTO	10951	7%	5.64
5/1/95	Cs-137	AUTO	11001	—	2.65
11/15/95	Cs-137	AUTO	10828	7%	5.34
5/7/96	Cs-137	AUTO	10623	7%	10.3
8/15/96	Cs-137	AUTO	10801	7%	8.31
8/6/97	Cs-137	AUTO	10188	7%	10
11/10/97	Cs-137	AUTO	10187	7%	10
6/26/98	Cs-137	AUTO	9963	6%	10
9/4/98	Cs-137	AUTO	9804	8%	9.8

(A) 1.0uCi Cs-137 Std. (yellow tube) green end down. Place tube in well slot. Press "Cs-137 Calib." button.

(B) Green end up. Place tube in well slot. Press "STAG TEST" button.

(C) Normal Resolution: 6-12%

(D) Normal Range: 3.325-16.919

(E) Counting efficiency determined 10/21/81 using Co-57 and the above PHA setting was found to be 91%. $DPM = CPM \times CF$. $CF = 1.1$
MDA = 52 DPM for 1 min. at 3 S.D. Isotope Open (20 - 400 Kev)

MEDICAL PHYSICS SURVEY SCINTILLATION PROBE EVALUATION

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

MODEL No.: Picker Spectroscaler 4R
ROOM No.: Nuclear Medicine

Date	(A) NUCLIDE	(B) H.V.	(E) CPM	(C) RESOL	(D) CHI ²	TEST
11/10/92	Cs-137	548	26980	11.3%	6.73	
5/4/93	Cs-137	540	21182	10.6%	5.99	3599
8/5/93	Cs-137	540	30991	11.0%	8.31	3600
8/3/94	Cs-137	542	60452	12.1%	*	3600
11/2/94	Cs-137	542	34469	7.6%	2.16	3600 (G)
2/1/95	Cs-137	542	27952	10.5%	4.30	3600
8/15/96	Cs-137	547	46540	11%	---	3600
9/4/98	Cs-137	545	11911	---	---	3600

(A) St. V's 212 uCi Cs-137 Std. on cross hairs. H.V. takes minutes to stabilize.

(B) Range: 1, LLD-652, ULD-672

(C) NORMAL RESOLUTION: 8%-12%

(D) NORMAL RANGE: 0.711 - 9.488

(E) Bioassay: % Window Mode; Peak = 364, window = 100; Time = 2 min.; Eff. = 0.06%; 53 cpm - .04 uCi
Measured at collimator face. Determined 5/14/90.

(F) Bioassay: For I-125; Peak = 325; LL = 200; UL = 500, mev Range = 0.1; 114 cpm = .12 uCi; Measured at
collimator face. Determined 2/4/92. MDA for probe on I-125 = 0.00133 at 3 S.D. for 1 min.

(G) Uptake scaler repaired 8/94.

MEDICAL PHYSICS SURVEY VENTILATION DATA

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

DATE	FUME HOOD (CFM)	CAMERA ROOM (CFM)	DOOR
2/5/96	480	889	Neg.
8/15/96	500	900	Neg.

XENON-133 PROGRAM INACTIVE

-
- (A) Fume Hood: Set opening at 18". Measure flow at top of opening in the middle. $\text{FPM} \times 3.375 \text{ ft}^2 = \text{CFM}$
(B) Camera Room: Determine mid grill maximum FPM. $\text{FPM} \times 1.27 \text{ ft}^2$

MEDICAL PHYSICS SURVEY BRACHYTHERAPY & OTHER SEALED SOURCE STORAGE SITE SURVEYS

FACILITY: St. Vincent Charity Hospital

LOCATION: Cleveland, OH

LOCATION OF SURVEY AND RESULTS IN MREM/HR

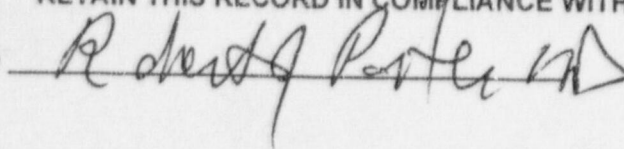
DATE	SURVEY METER (Serial Number)	A	B	D	E	F	SURVEYOR
11/4/93	235	.06	.02	(D)	0.6		ES
2/3/94	235	1.2	.02	(D)	0.7		ES
5/4/94	235	.2	.02	(D)	0.5		FB
8/3/94	235	0.5	.02	(D)	0.35		ES
11/2/94	235	0.1	.01	(D)	0.30	.03	ES
2/1/95	235	0.3	.02	(D)	0.20	.50	ES
5/1/95	255	0.1	.02	(D)	0.2	.02	FB
8/1/95	235	0.1	.02	(D)	0.2	.02	FB
11/15/95	235	0.14	.01	(D)	(E)	.02	ES
2/5/96	235	0.1	.02	(D)	0.1	.02	FB
5/7/96	235	0.1	.02	(D)	(E)	.02	ES
11/14/96	235	0.1	.02	(D)	---	.02	FB
2/13/97	235	0.1	.02	(D)	---	.02	FB
5/7/97	235	0.1	.04	(D)	---	.02	FB
8/6/97	235	0.15	.03	(D)	---	.02	ES
11/10/97	235	0.2	.02	(D)	---	.02	ES
2/10/98	235	0.1	.02	(D)	---	.02	FB
6/26/98	2309M	0.4	.02	---	---	.02	ES
9/4/98	2309M	.2	.02	---	---	.02	FB

LOCATION KEY:

- A. Fume hood at plane of glass door. Side to side and top to bottom.
- B. Background
- C. Xenon bag in storage at time of survey.
- *D. Ir-192 survey performed and signed off by Dr. Kim, Assistant RSO, or Dr. Porter, RSO.
- E. Co-57 flood case in hot lab. Moved to storage room prior to 11/15/95.
- F. Door of storage room in nuclear medicine.

RETAIN THIS RECORD IN COMPLIANCE WITH 10 CFR 35.59(i)

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

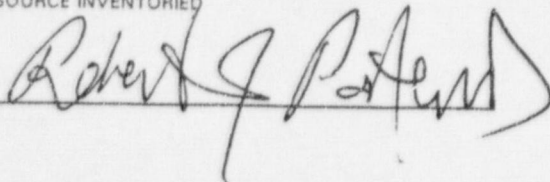
Nuclide:	Cs-137	Co-57	Co-57	Cs-137	Cs-137
Type:	Calib. Std.	Flood Source	Button	Yellow Disc	Calib. Tube
Location:	Hot Lab	Storage Room 401 MBq	Storage Room	Storage Room	Compac
Assay: (Date)	212uCi 5/22/78	10.5mCi 6/21/91	50uCi 1/92	10uCi 1981	1uCi 1981
Mgr:	NEN	Syncor	Dupont	Victoreen	Picker
Serial No.:	319-235-14	CIS 987	NES-289		658200
Model:	NES-356				

DATE

2/1/95	X	X	X	X	X
5/1/95	X	X	X	X	X
8/1/95	X	X	X	X	X
11/15/95	X	X	X	X	X
2/5/96	X	X	X	X	X
5/7/96	X	X	X	X	X
8/15/96	X	X	X	X	X
11/14/96	X	X	X	X	X
2/19/97	X	X	X	X	X
5/7/97	X	X	X	X	X
8/6/97	X	X	X	X	X
11/10/97	X	X	X	X	X
2/10/98	X	X	X	X	X
6/26/98	X	X	X	X	X
9/4/98	X	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

Nuclide:	Co-57	Cs-137	Ba-133
Type:	Flood	Vial E	Vial E
Location:	Storage Room	Storage Room	Storage Room
Assay:	384MBq	190uCi	271uCi
(Date)	7/30/89	7/8/76	5/1/80
Mgr:	CIS	NEN	NEN
Serial No.:	858	231-08313	3580580 A-45

Model:

DATE

2/1/95	X	X	X
5/1/95	X	X	X
8/1/95	X	X	X
11/15/95	X	X	X
2/5/96	X	X	X
5/7/96	X	X	X
8/15/96	X	X	X
11/14/96	X	X	X
2/19/97	X	X	X
5/7/97	X	X	X
8/6/97	X	X	X
11/10/97	X	X	X
2/10/98	X	X	X
6/26/98	X	X	X
9/4/98	(B)	X	X

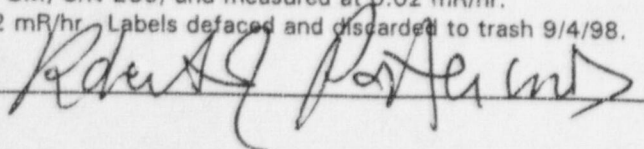
X - INDICATES SOURCE INVENTORIED

(A) Source disposed as ordinary waste 4/17/96.

(B) Survey with GM, S/N 235, and measured at 0.02 mR/hr.

Bkg. = 0.02 mR/hr. Labels defaced and discarded to trash 9/4/98.

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

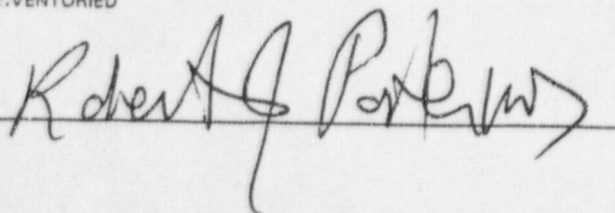
Nuclide:	Co-57	Co-57	Co-57	Co-57
Type:	Flood	Spot Marker	Wand	Flood
Location:	Storage Room	Camera Room	Camera Room	Storage Room
Assay: (Date)	389MBq 10/9/92	50 uCi 10/25/94	10.2 MBq 10/96	555 MBq 10/3/96
Mgr:	CIS	Biodex	---	CIS
Serial No.:	474	099-289	W06238-4-101	A5571
Model:		NES-289	---	---

DATE

2/1/95	X	X		
5/1/95	X	X		
8/1/95	X	X		
11/15/95	X	X		
2/5/96	X	X		
5/7/96	X	X		
8/15/96	X	X		
11/14/96	X	X	X	X
2/19/97	X	X	X	X
5/7/97	X	X	X	X
8/6/97	X	X	X	X
11/10/97	X	X	X	X
2/10/98	X	X	X	X
6/26/98	X	X	X	X
9/4/98	X	X	X	X

X - INDICATES SOURCE INVENTORIED

RSO Signature



MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine

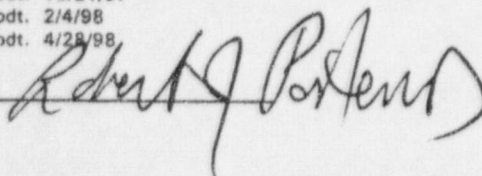
Nuclide:	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192	Ir-192
Type:	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source	Sealed Source
Location:	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader	Remote After-loader
Assay:	11.7 Ci	11.0 Ci	11.7 Ci	12.5 Ci	13.0 Ci	12.5 Ci
(Date)	3/12/97	6/5/97	9/22/97	12/16/97	3/6/98	6/26/98
Mgr:	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.	Mallin.
Serial No.:	214	912	897	032	973	840
Model:					DRN 07735	DRN 07735

DATE						
11/15/95						
2/5/96						
5/7/96						
8/15/96						
11/14/96						
2/19/97						
5/7/97	X					
8/6/97	(N)	X				
11/10/97		(O)	X			
2/10/98			(P)	X		
6/26/98				(Q)	X	
9/4/98						X

X - INDICATES SOURCE INVENTORIED

(N) Returned to Mallinckrodt. 6/26/97
(O) Returned to Mallinckrodt. 10/21/97
(P) Returned to Mallinckrodt. 2/4/98
(Q) Returned to Mallinckrodt. 4/28/98

RSO Signature _____



MEDICAL PHYSICS SURVEY SEALED SOURCE LEAK TEST ANALYSIS REPORT

FACILITY: St. Vincent Charity Hospital
LOCATION: Cleveland, OH

DEPARTMENT: Nuclear Medicine
ATTENTION: Myrna Balonek

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and reveals removable contamination was less than 0.005 uCi, unless otherwise noted, when compared against NIST traceable standards.

Source: Cs-137 Calibration Standard, 212 uCi, 5/22/78, NEN, 319-235-14

Date:	5/7/97	8/6/97	11/10/97	2/10/98	6/26/98r	9/4/98
Wipe No.:	1872	2623	3271	3765	4695	5204
MDA (uCi):	2E-04	2E-04	2E-04	2E-04	2E-04	2E-04
Net CPM:	0	0	0	8	0	0
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	1,500	1,500	1,500	1,500	1,500	1,500
Analyst:	F. Bloe	E. Sims	E. Sims	F. Bloe	E. Sims	F. Bloe

Source: Co-57 Flood, 555 MBq, 10/3/96, CIS A5571

Date:	5/7/97	8/6/97	11/10/97	2/10/98	6/26/98r	9/4/98
Wipe No.:	1873	2624	3272	3766	4696	5205
MDA (uCi):	3E-05	3E-05	3E-05	3E-05	3E-05	3E-05
Net CPM:	0	0	0	0	10	22
Net uCi:	< MDA	< MDA	< MDA	< MDA	< MDA	< MDA
CPM for 0.005 uCi:	10,160	10,160	10,160	10,160	10,160	10,160
Analyst:	F. Bloe	E. Sims	E. Sims	F. Bloe	E. Sims	F. Bloe

Performed by: Associates in Medical Physics, LLC

Under License No. : NRC #34-26645-01

RSO Signature



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

MAY 28 1999

Robert J. Porter, M.D.
Radiation Safety Officer
St. Vincent Charity Hospital
2351 East 22nd Street
Cleveland, Ohio 44115

Dear Dr. Porter:

This refers to the letter dated May 12, 1999, from C. Michael Rutherford, Chief Financial Officer, Caritas Healthcare Partnership, requesting NRC consent to the proposed change of ownership of St. Vincent Charity Hospital, NRC License No. 34-01856-01. Based upon our review of the information provided, the NRC consents to the change of ownership.

In addition, we have determined that the transaction as described in the letter does not require an amendment to the existing license.

If you have any questions or require clarification on any of the information stated above, you may contact us at 630-829-9887.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael F. Weber".

Michael F. Weber
Materials Licensing Branch

License No. 34-01856-01
Docket No. 030-02689

cc: C. Michael Rutherford

305268