

NRC FORM 313 (8-1999) 10 CFR 30, 32, 33 34, 35, 36, 39 and 40 <div style="text-align: center;">U. S. NUCLEAR REGULATORY COMMISSION</div> <div style="text-align: center;">APPLICATION FOR MATERIAL LICENSE</div>	APPROVED BY OMB: NO. 3150-0120 <small>EXPRES-10/31/2005</small> Estimated burden per response to comply with this mandatory information collection request: 7.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.
INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.	
APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH: DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001 ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS: IF YOU ARE LOCATED IN: CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO: LICENSING ASSISTANT SECTION NUCLEAR MATERIALS SAFETY BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION I 475 ALLENDALE ROAD KING OF PRUSSIA, PA 19406-1415 ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO: SAM NUNN ATLANTA FEDERAL CENTER U. S. NUCLEAR REGULATORY COMMISSION, REGION II 61 FORSYTH STREET, S.W., SUITE 23T85 ATLANTA, GEORGIA 30303-8931	IF YOU ARE LOCATED IN: ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO: MATERIALS LICENSING SECTION U.S. NUCLEAR REGULATORY COMMISSION, REGION III 801 WARRENVILLE RD. Lisle, IL 60532-4351 ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO: NUCLEAR MATERIALS LICENSING SECTION U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TX 76011-8064
PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.	
1. THIS IS AN APPLICATION FOR (Check appropriate item) <input type="checkbox"/> A NEW LICENSE <input type="checkbox"/> B AMENDMENT TO LICENSE NUMBER _____ <input checked="" type="checkbox"/> C RENEWAL OF LICENSE NUMBER <u>45-23057-01</u>	2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code) Norton Community Hospital 100 15th Street, NW Norton, Virginia 24273
3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED Norton Community Hospital 100 15th Street, NW Norton, Virginia 24273	4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION James P. Nunn (Physics Assoc.) TELEPHONE NUMBER (540) 563-0165
SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.	
5. RADIOACTIVE MATERIAL a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS
9. FACILITIES AND EQUIPMENT.	10. RADIATION SAFETY PROGRAM.
11. WASTE MANAGEMENT	12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY _____ AMOUNT ENCLOSED \$ <u>NA</u>
13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF. WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 82 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.	
CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE David Fuqua, CEO	SIGNATURE <u>David Fuqua</u> DATE <u>1/25/05</u>
FOR NRC USE ONLY	
TYPE OF FEE APPROVED BY _____	FEE LOG FEE CATEGORY AMOUNT RECEIVED \$ _____ CHECK NUMBER _____ COMMENTS _____ DATE _____

03020223

X

RECEIVED
 REGION I
 JAN 27 AM 1:15

136360

NMSS/RCNI MATERIALS-002

Norton Community Hospital, Norton Virginia
U.S. Nuclear Regulatory Commission License # 45-23057-01
Supplement to USNRC Form 313, Items 5 through 11

5. Radioactive material.

a. Radioactive material: We request approval for the radioactive materials, forms, and maximum amounts in the table below.

Byproduct Material	Chemical/Physical Form	Maximum Amount
Any byproduct material identified in 10 CFR 35.100	Any unsealed byproduct material identified in 10 CFR 35.100	As needed
Any byproduct material identified in 10 CFR 35.200	Any unsealed byproduct material identified in 10 CFR 35.200	As needed

b. Sealed sources and devices: Not applicable.

c. Recordkeeping for decommissioning and financial assurance: Response not required.

6. Purpose(s) for which permitted material will be used. We request approval for the uses in the table below.

Categories	Uses
10 CFR 35.100	Medical use of unsealed byproduct material for uptake, dilution, and excretion studies for which a written directive is not required
10 CFR 35.200	Medical use of unsealed byproduct material for imaging and localization studies for which a written directive is not required

7. Individual(s) responsible for radiation safety program and their training and experience. We request approval for the current Radiation Safety Officer and authorized users as listed below.

a. Radiation Safety Officer: Garland Thomas Haines, MD

b. Authorized users: Current authorized users as listed in the table below.

Authorized User	Material and Use
Garland Thomas Haines, MD	35.100; 35.200
Srikumar Gopalan, MD	35.100; 35.200

c. Authorized nuclear pharmacist: Response not required.

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d. Authorized medical physicist: Response not required.

8. Not applicable.

9. Facilities and equipment.

a. Facility diagram: We request approval for the facilities as shown on the attached facility diagrams. We are in the process of adding a second nuclear camera in our department and are moving across the hall from our current location. Please find attached closeout surveys on our old scan room and hot lab that were performed by our consultant physicist.

(1) Sealed sources, while in storage, will be shielded as necessary to comply with 10 CFR 20 and ensure doses to personnel are ALARA (as low as reasonably achievable).

(2) When practical two delay methods (e.g., door locks, storage cabinets, or other delay method) will be used to secure sealed sources while in storage.

b. Radiation monitoring instruments will be calibrated by a person qualified to perform survey meter calibrations. Instruments used to perform required surveys will be based on NUREG-1556, Volume 9, Appendix K, "Equipment Selection" and Table K.1. We reserve the right to upgrade instruments as necessary as long as the upgraded instruments are adequate to measure the type and level of radiation being used.

c. Equipment used to measure dosages will be calibrated per nationally recognized standards or the manufacturer's instructions.

d. Dosimetry equipment - calibration and use: Response not required.

e. Other equipment and facilities: Response not required.

10. Radiation protection program.

a. Safety procedures and instructions: Response not required.

b. Occupational dose: We will complete either a prospective evaluation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR 20 or provide dosimetry per the "Criteria" and "Discussion" paragraphs in NUREG-1556, Volume 9, section 8.22.

c. Area surveys: We have developed and will implement and maintain written procedures for area surveys per 10 CFR 20.1101 that meet the requirements in 10 CFR 20.1501 and 10 CFR 35.70.

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d. Safe use of unsealed radioactive material: We have developed and will implement and maintain procedures for safe use of unsealed radioactive material that meet the requirements of 10 CFR 20.1101 and 10 CFR 20.1301.

e. Spill procedures: We have developed and will implement and maintain written procedures for safe response to spills of permitted material per 10 CFR 20.1101.

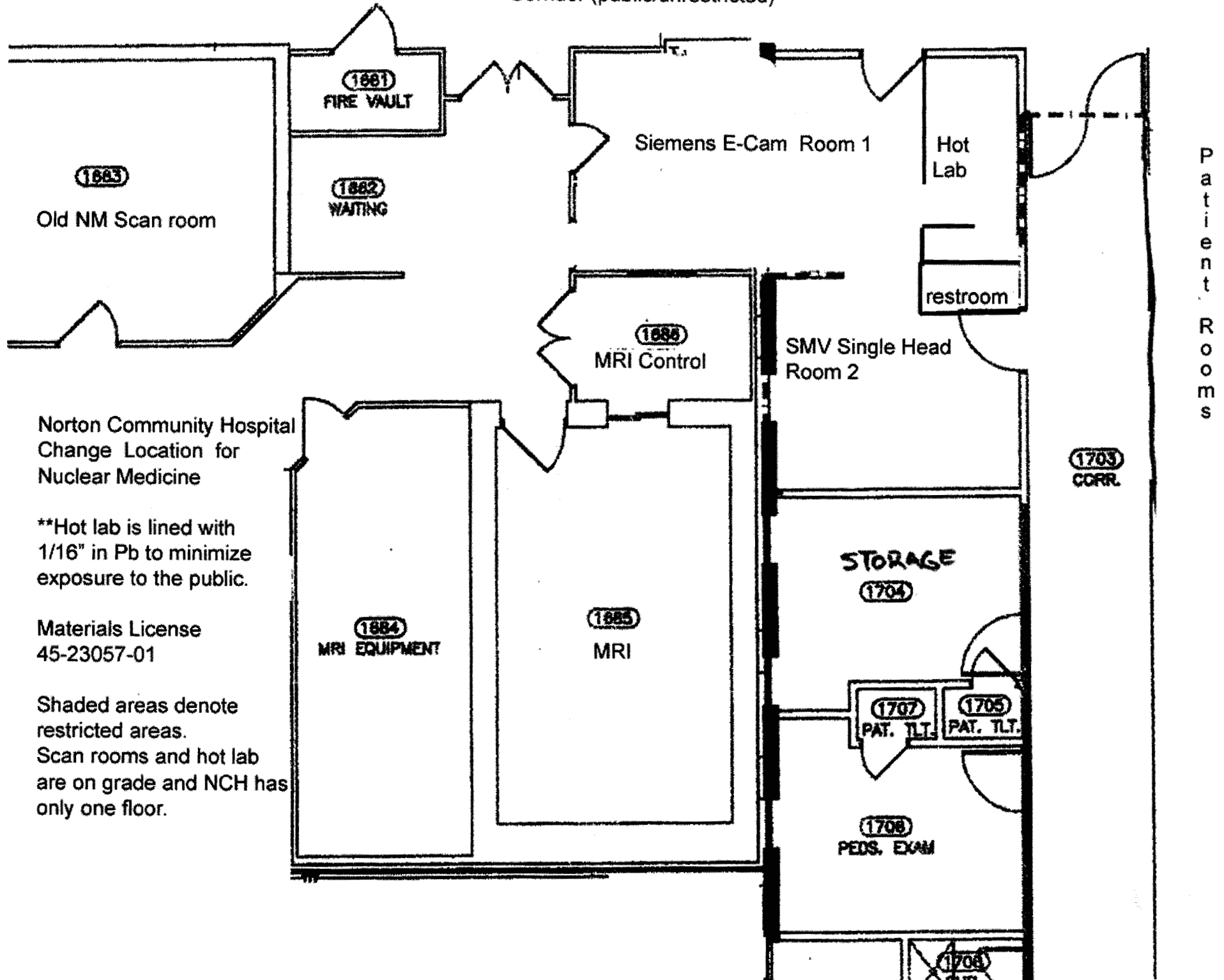
f. Installation, maintenance, adjustment, repair, and inspection of therapy devices containing sealed sources: Response not required.

g. Minimization of contamination: Response not required.

11. Waste management. We have developed and will implement and maintain written waste disposal procedures for permitted material per 10 CFR 20.1101 that also meet the requirements of the applicable section of Subpart K to 10 CFR 20 and 10 CFR 35.92.

Attachment:
Facility diagrams

Corridor (public/unrestricted)



Norton Community Hospital
Change Location for
Nuclear Medicine

**Hot lab is lined with
1/16" in Pb to minimize
exposure to the public.

Materials License
45-23057-01

Shaded areas denote
restricted areas.
Scan rooms and hot lab
are on grade and NCH has
only one floor.

Norton Community Hospital Closeout Survey Questionnaire

USNRC Materials License Number: 45-23057-01

Building/room location: Radiology Department rooms 1683 & 1664

1. List radionuclides used in the room; circle form used (Sealed, Unsealed, or Gas):

Radionuclides Used	Form Used	First Use Date	Last Use Date
Tc-99m	s <u>U</u> g	1985	Dec 2004
Ga-67	s <u>U</u> g	1985	Dec 2004
I-123	s <u>U</u> g	1985	Dec 2004
Xe-133	s u <u>G</u>	1985	Dec 2004
Co-57	<u>S</u> u g	1985	Dec 2004
Cs-137	<u>S</u> u g	1985	Dec 2004
Ba-133	<u>S</u> u g	1985	Dec 2004
Tl-201	s <u>U</u> g	1985	Dec 2004
	s u g		
	s u g		

2. Did a major spill occur in the room which resulted in residual radioactivity?

☒ No ☐ Yes (if yes, attach description)

3. Did any sealed sources stored or used in the room leak or fail a leak test?

☒ No ☐ Yes (if yes, attach description)

4. Were sealed sources which require a leak test transferred or relocated from the room?

☒ No ☐ Yes (if yes, attach regulatory current test results)

5. Were all radioactive materials, sources, and equipment removed?

☐ No ☒ Yes (if no, attach description)

6. Did the closeout survey methods follow best practices in NUREG 1556 Vol. 9?

☐ No ☒ Yes (if no, attach alternate methods)

7. What survey instruments were used?

Exposure rate measurements

**Survey meter/probe manufacturer/model: Ludlum Model 14-C S/N 170045
With EWGM S/N PR173575 (thin window 1.35 mg/cm²)**

Calibration date: 11/7/2004

Background reading in mR per hour: 0.02 mR/hr

Surface scans for fixed radioactivity

**Survey meter/probe manufacturer/model: Ludlum Model 14-C S/N 170045
With EWGM S/N PR173575 (thin window 1.35 mg/cm²)**

Calibration date: 11/7/2004

Background reading in CPM or DPM: 50 cpm

Swipe surveys for removable radioactive contamination

**Counting equipment manufacturer/model: Cpaintec CRC-15W well counter
S/N 174246**

Background counts: 597 (auto background subtraction)

Calibration source counts: 299900 cpm (0.5 uCi on 8/1/2004)

Calibration source efficiencies: 27 %

Minimum detectable activities (uCi or DPM): 426 dpm

8. Were any results for exposure rate measurements or surface scans for fixed radioactivity greater than background readings?

☒ **No** ☐ **Yes** (if yes, attach description)

9. Were any swipe survey results greater than applicable release criteria in NUREG 1556, Volume 11, Table S.5?

☒ **No** ☐ **Yes** (if yes, attach description)

10. Information attached (other than listed above).

☒ **Room diagram**

☐ Survey grid

☒ Counting system calibration/quality assurance results

☐ Other (specify)

Point of contact Name: James P. Nunn Physics Associates (45-17344-01)
Roanoke Virginia

JPN/
1/3/04

Telephone number/e-mail address:(540) 563-0165 Cell (540) 353-2597

Norton Community Hospital Closeout Survey Results Rooms 1664 and 1663

1. Numbers in the upper left corner of each box correspond to numbers on the room diagram.
2. Exposure rate measurements in mR per hour. Background reading: 0.02 mR per hour
3. Scanning survey results in counts per minute (CPM). Background reading: 50 CPM
4. DPM¹ and DPM², swipe survey results, in disintegrations per minute per 100 centimeters squared (DPM) for two energy levels, (upper=²⁰Tl, ⁵⁷Co, ¹³³Xe, ^{99m}Tc, ¹¹¹In, etc; and lower=¹²⁹I), where:

DPM¹: background counts 597 calibration source 299.9 kcpm efficiency 27%

energy range/radionuclides evaluated 50 keV ->1.5 MeV MDA 426 dpm

DPM²: background counts NA calibration source efficiency

energy range/radionuclides evaluated MDA

1	2	3	4	5
mR: 0.02	mR: 0.02	mR: 0.02	mR: 0.02	mR: 0.02
CPM: 50	CPM: 50	CPM: 50	CPM: 50	CPM: 50
DPM ¹ : 70	DPM ¹ : BKG	DPM ¹ : 44	DPM ¹ : 3	DPM ¹ : BKG
DPM ² :	DPM ² :	DPM ² :	DPM ² :	DPM ² :
6	7	8	9	10
mR: 0.02	mR:	mR:	mR:	mR:
CPM: 50	CPM:	CPM:	CPM:	CPM:
DPM ¹ : 118	DPM ¹ :	DPM ¹ :	DPM ¹ :	DPM ¹ :
DPM ² :	DPM ² :	DPM ² :	DPM ² :	DPM ² :
11	12	13	14	15
mR:	mR:	mR:	mR:	mR:
CPM:	CPM:	CPM:	CPM:	CPM:
DPM ¹ :	DPM ¹ :	DPM ¹ :	DPM ¹ :	DPM ¹ :
DPM ² :	DPM ² :	DPM ² :	DPM ² :	DPM ² :

Norton Community Hospital Closeout Survey Results
Please refer to attached floor plan for locations of wipes and surveys
Created on 1/3/2005 11:53 AM

JPN
1/3/05

WELL COUNTER CALIBRATION & QC

Facility: Norton Community Hospital

STANDARD INFORMATION

ID: Cs-137 T(1/2) Yrs: 30.200
Abundance(#/dis.): 1.0000
CAL. DATE - Year: 2004 Month: 8 Day: 1
* * Standard activity units: 1 = uCi, 2 = dpm, 3 = Bq * *
Enter activity unit choice (1-3): 1
uCi on Calib. Date: 0.5000

COUNTING DATA

Counting time in minutes for:
Bkd: 1.00 Standards: 1.00
Date Counted- Year: 2005 Month: 1 Day: 3

Instrument Used: Capintec CRC-15W S/N 174246
Counted By: James P. Nunn
Physics Associates

ID	Counts
Background	597
Standard	300497

RESULTS

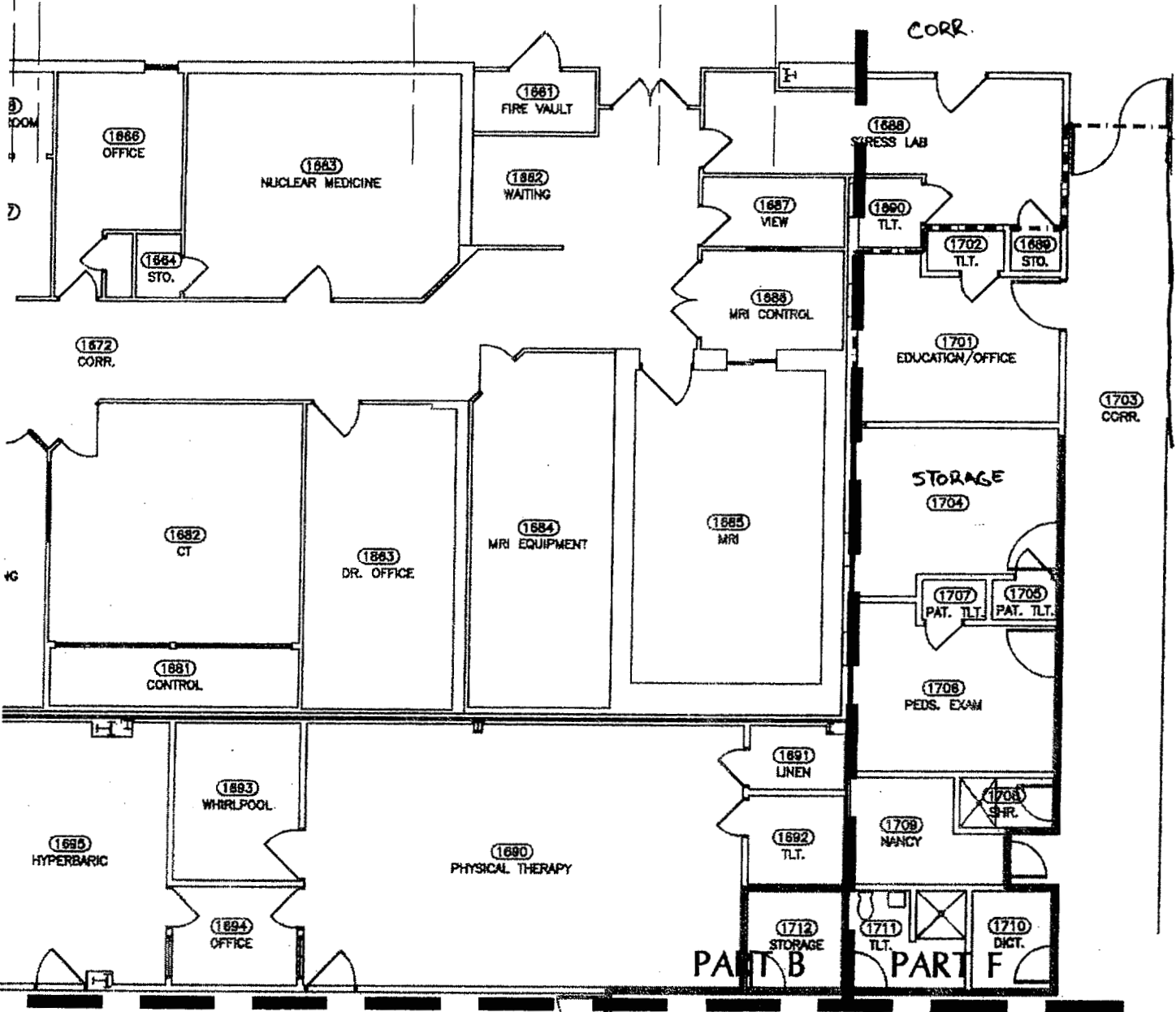
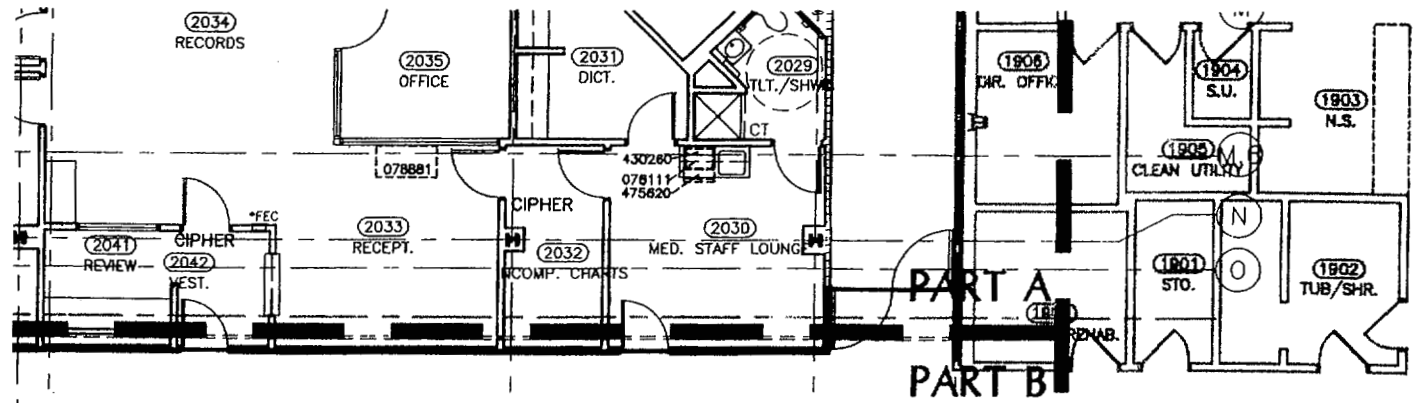
Ctg. Efficiency = 0.2728 or 27%

Method	LLD/MDA		
	Computed uCi	Computed dpm	Computed Bq
NCRP 58	1.92E-04	4.26E+02	7.11E+00
NRC	1.88E-04	4.17E+02	6.96E+00
3 x SD(bkd)	1.21E-04	2.69E+02	4.48E+00

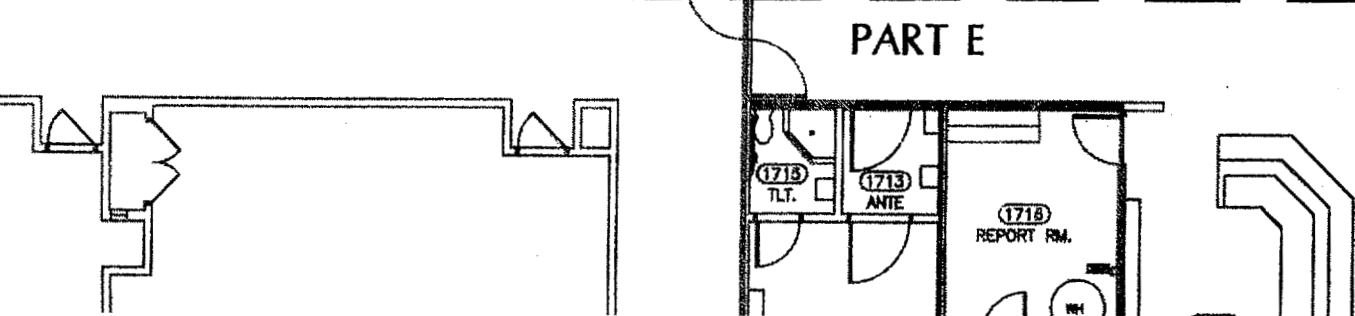
Comments:

Replacment unit.

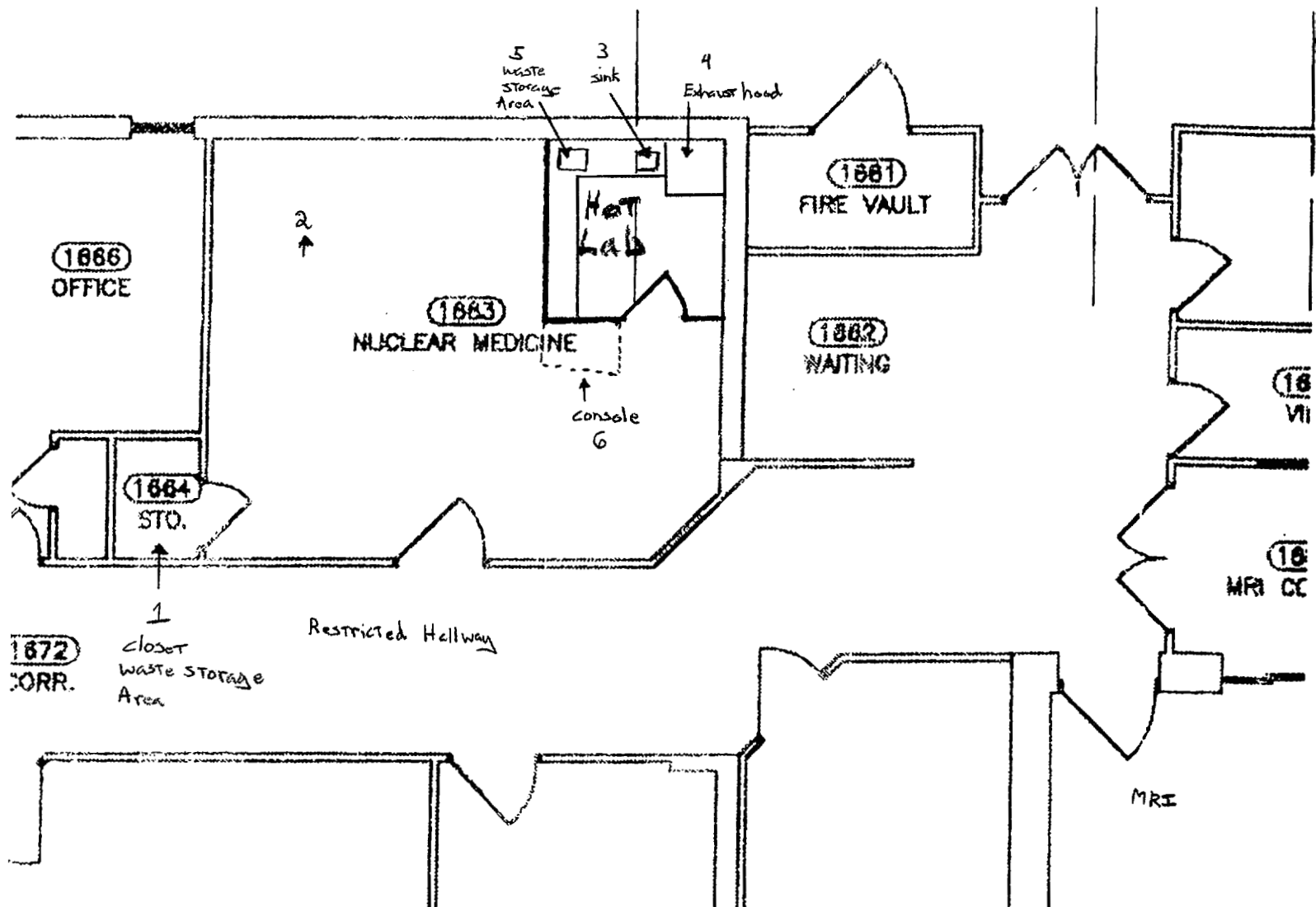
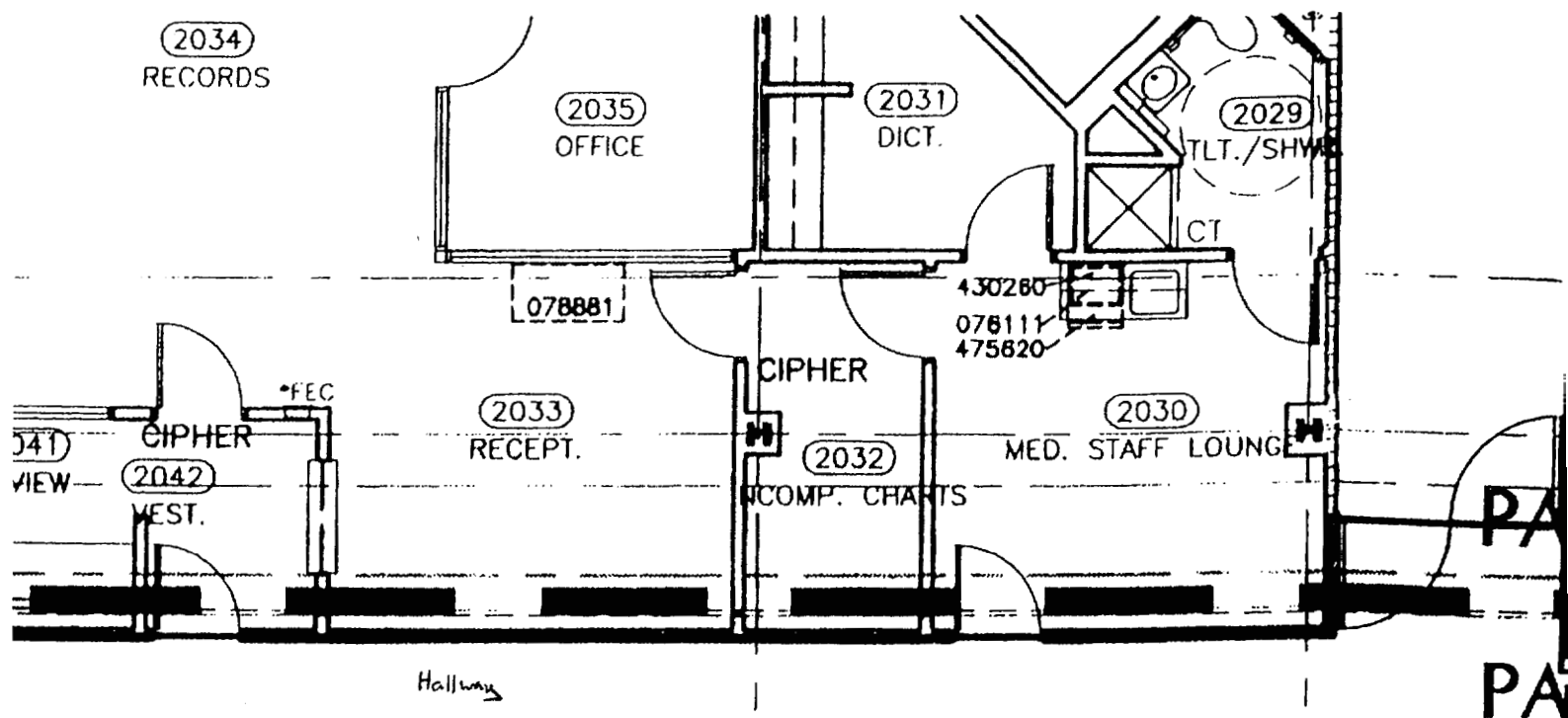
1/3/05



PT ROOMS



NCH Closeout Surveys OLD NM Scan room



This is to acknowledge the receipt of your letter/application dated

1/25/2005, and to inform you that the initial processing which includes an administrative review has been performed.

☒ Review 45-23057-01
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 136360.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

BETWEEN: : (FOR LFMS USE)
 : INFORMATION FROM LTS
 : -----
 :
 License Fee Management Branch, ARM : Program Code: 02121
 and : Status Code: 2
 Regional Licensing Sections : Fee Category: 7C
 : Exp. Date: 20050228
 : Fee Comments: CODE 23
 : Decom Fin Assur Req'd: N
 : ::::::::::::::::::::::::::::::::::::::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: NORTON COMMUNITY HOSPITAL
Received Date: 20050127
Docket No: 3020223
Control No.: 136360
License No.: 45-23057-01
Action Type: Renewal

2. FEE ATTACHED

Amount: /
Check No.: /

3. COMMENTS

Signed
Date

M. A. Perkins
1/27/05

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /__/)

1. Fee Category and Amount: _____

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

Amendment _____
Renewal _____
License _____

3. OTHER _____

Signed
Date

