

Spaulding Rehabilitation Hospital

125 Nashua Street, Boston, Massachusetts 02114
Telephone: 617-720-6400

Dedicated to Patient Care, Teaching and Research

December 21, 1983

Material Licensing Branch
Division of Fuel Cycle and Material Safety
Region 1
U.S. Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

RE: Amendment of Byproduct Material and License Number 20-20615-01

Dear Sir/Madame:

Enclosed please find two (2) copies of the amendment we wish to file on byproduct material license 20-20615-01. Our check for the \$40.00 amendment fee is also enclosed.

Please contact me if you have any questions regarding this amendment.

Sincerely,

GEORGE A. DEMERITT
Vice President

GAD/m

Enc: as stated

RECEIVED BY LFMD	
Date...	1/23/84
Log...	Jan 3 I
By.....	Brown
Orig. To.....	
Action Compl.	1/25/84

Applicant...	
Check No.	043992
Amount/Fee Category	440.78
Type of Fee	Amendment
Date Check Recd.	1/23/84
Received By	Brown

8602280419 851226
REG1 LIC30
20-20615-01 PDR

ML10

"OFFICIAL RECORD COPY"

Formerly called the Massachusetts Rehabilitation Hospital

02045

A private specialized rehabilitation hospital associated with Harvard Medical School and Tufts University School of Medicine offering rehabilitation care in the areas of neurological disease, orthopedics, stroke, arthritis, pediatrics, pain, traumatic head injury, spinal cord disease, oncology, alcoholism, cardiology, pulmonary disease and other rehabilitation areas.

JAN 09 1984

Massachusetts Rehabilitation Hospital

License Number 20-20615-01

Expires 7/31/88

Please amend name of hospital to:

Spaulding Rehabilitation Hospital

Please amend item 10 to read:

Survey meter calibration will be conducted annually by Robert Johnson, CHP (calibration procedures are on file with the NRC under license number 20-00297-53), or Nuclear Pharmacy, Incorporated (calibration procedures are on file with the NRC under license number 30-19916091), or Health Physics Services, Inc. of Potomac, Maryland (calibration procedures are on file with the NRC under license number 19-19791-01).

Please amend item 10, section 2 to read:

Annually, the dose calibrator will be checked for accuracy using several radionuclides such as Cs-137, Co-57, and Ba-133 using appropriate reference standards whose activity is traceable to NBS.

Procedure:

- 1) assay reference standard in the dose calibrator at the appropriate setting and subtract background to obtain a net activity
- 2) repeat step 1 for a total of 3 determinations and average results
- 3) the average activity determined in step 2 should agree with the certified activity of the reference source within $\pm 5\%$ after decay corrections
- 4) Repeat above procedures for other commonly used radionuclides for which adequate reference standards are available.
- 5) All calibration accuracy checks will be maintained on file.
- 6) Calibration checks which do not agree within $\pm 5\%$ indicate that the instrument should be repaired, recalibrated or adjusted. If this is not possible, a calibration factor should be calculated for use during routine assays of radionuclides.

Please amend item 10, number 3 to read:

Linearity of the dose calibrator will be determined quarterly, in accordance with the NRC Medical Licensing Guide, Appendix D, Section 2E or by utilizing Calcorp, Inc. calcheck test kit (data attached), over the full range of technetium activities used.

(item 10, number 3 cont.)

Should the linearity (measured versus calculated) vary by greater than $\pm 5\%$, appropriate corrective action will be conducted.

Item 18:

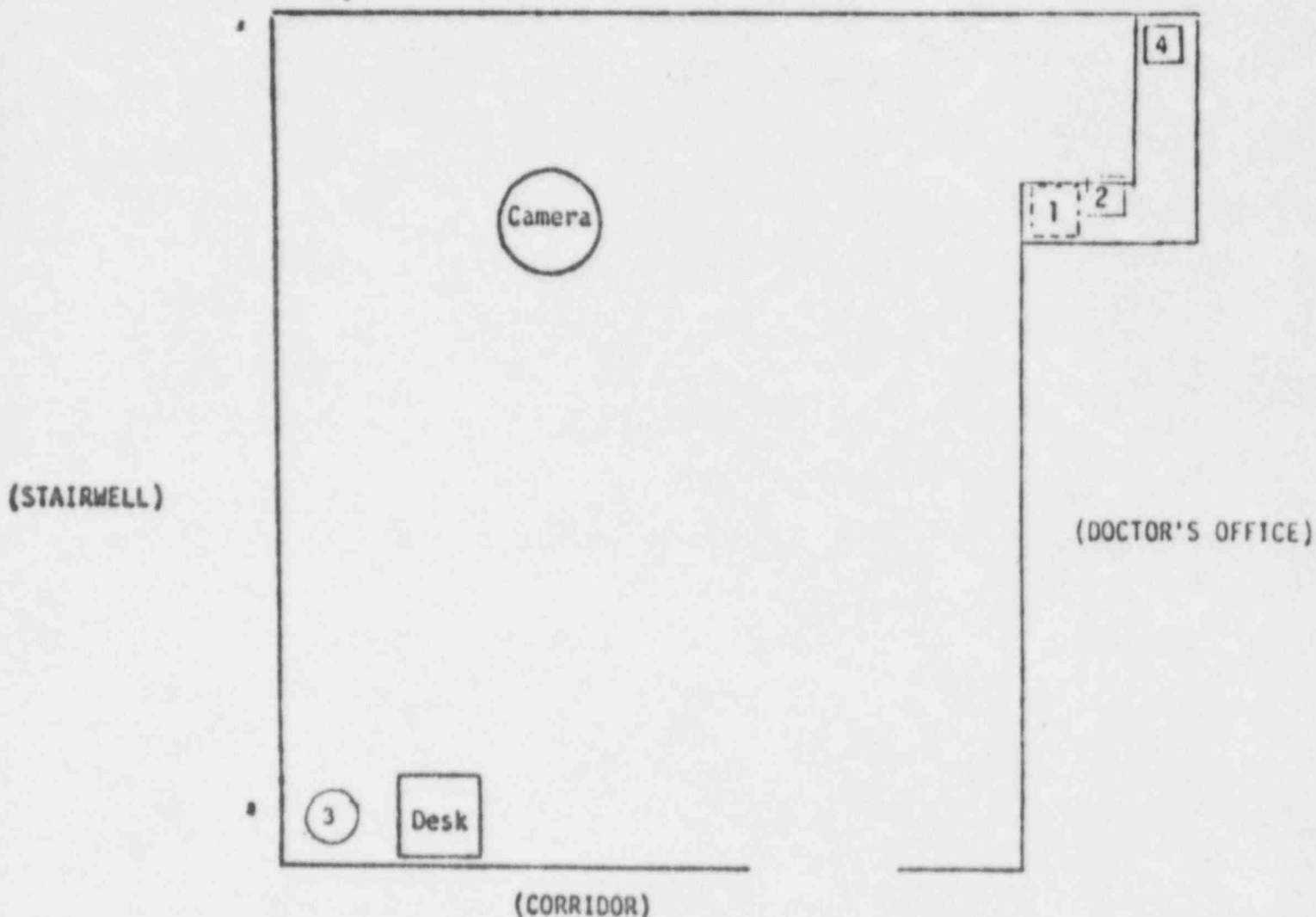
In addition to waste disposal procedures listed, we would like to include waste disposal/removal services provided by Nuclear Pharmacy, Incorporated (NPI procedures on file under NRC license number 20-21227-01 MD).

Item 11:

Please note a change in the sink location from the original application. (diagram of facility attached)

FACILITY DIAGRAM
Massachusetts Rehabilitation Hospital
Nuclear Cardiology Department

(OUTSIDE WALL)



- NOTE: 1. Long and short lived isotope storage, surrounded by 2 inch thick lead bricks, approximately 10"x12"x12".
2. Undercounter radioactive waste and decay-in-storage, 1/8" thick lead, 10"x14"x12".
3. Sink
4. Dose calibrator

In Just Four Minutes ...not days...you can meet governmental regs

Fast

Now with the newly developed Calicheck dose calibration activity linearity test kit, you can meet NRC Regulatory Guide 10.8 Appendix B, Section 2.1 or your state's equivalent requirements in just four minutes...not days. You can complete the test in one hour sitting and checking linearity virtually at a glance. Plus, you eliminate the frustration of having to start the test all over simply because you forgot to take a reading on time. Patent pending.

Accurate and Reliable

The new Calicheck kit is designed for all unsealed radiation by known values...accurate using a high yield generator eloant for units dose.

A Calicheck kit provides for seven successive measurements and a long half decay of 99mTc. It is proximal to 0.6, 1.2, 2.4, 3.6, 4.8 and 5.4 hours from the initial assay.

Complete Yet Reusable

Your Calicheck kit consists of a complete with all storage containers, a unique arrangement of color coded lead wrapped tubes, work record, keeping sheet, instructions for use including specific correction factors and a license and a merit form (if needed).

Your Calicheck kit is completely reusable for an indefinite period of time. There is nothing to wear out or use up. If damage should cause a tube to malfunction, individual replacement is available.

Safe

You use only a Calicheck kit to eliminate the need to fractionate eluant to decay the elution for several days while periodically collecting data to determine linearity. Time and potential exposure to radiation is drastically reduced thereby maintaining exposures AECAR.

Lowers Department Costs

When you test with the Calicheck kit, both the source activity and

dose calibration can be returned to the service in just minutes. This saving alone can pay for a Calicheck kit in just three months. Linearity tests. A Calicheck kit lets you return to activity service.

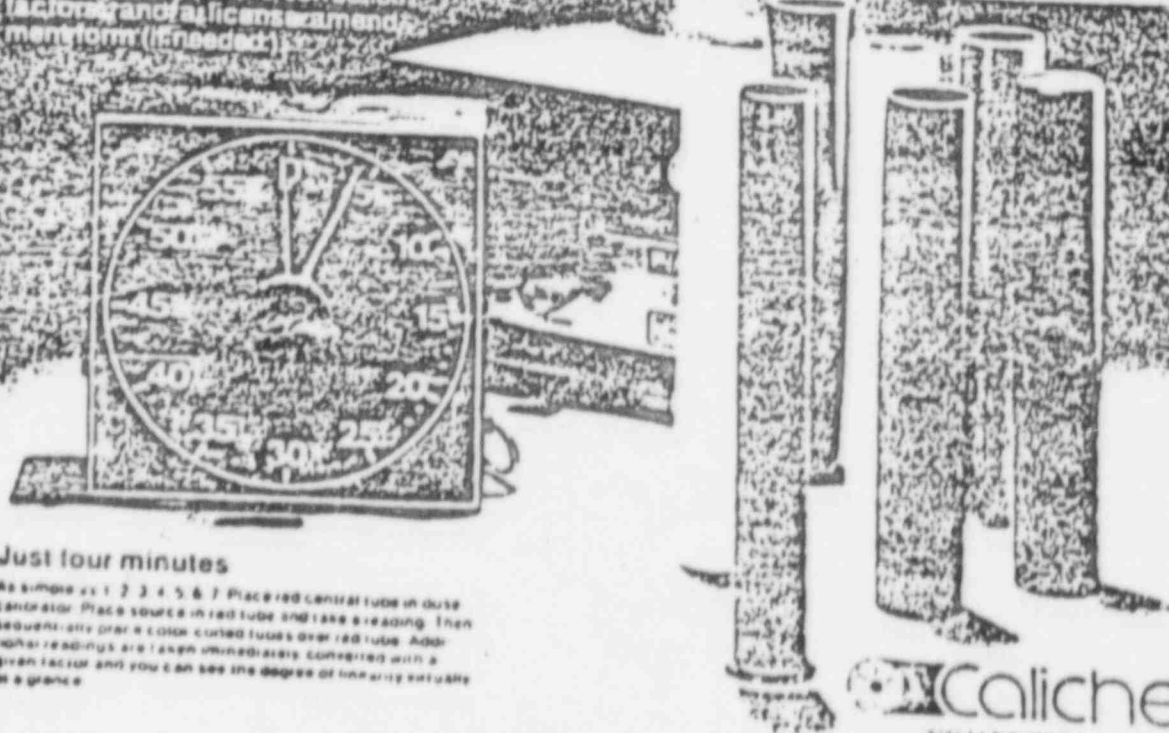
Can Improve Patient Care

A Calicheck kit is so fast, efficient and easy to use, you may wish to check dose calibration more frequently. Stay on top of trouble before it becomes serious.

Low Price

A Calicheck dose calibration activity linearity test kit is just \$325.00 shipping included.

Just call (216) 663-1775 or write Calcomp, Inc., P.O. Box 25530, Cleveland, Ohio 44125-0530.



Just four minutes

As simple as 1 2 3 4 5 6 7. Place red central tube in dose calibrator. Place source in red tube and take reading. Then sequentially place color coded tubes over red tube. Additional readings are taken immediately converted with a given factor and you can see the degree of linearity at a glance.

Calicheck

*MAY REQUIRE APPROVAL OF THE AGENCY ISSUING THE RADIOACTIVE MATERIALS LICENSE

CALICHECK[®]

(ORANGE)

Product Description

Calicheck is a kit designed to perform the activity linearity test on a dose calibrator quickly and accurately. The kit consists of seven tubes, six of which are lead-lined to attenuate gamma radiation from radioactive sources, and a seventh, unlined tube. Each lead-lined tube varies in the thickness of lead so as to simulate various stages of radioactive decay. These tubes are sequentially placed over a source of radioactivity in the dose calibrator and, within minutes, seven successive measurements are acquired representing values that would have been obtained at approximately 0, 6, 12, 20, 30, 40 and 50 hours after the initial assay of Tc 99m. The need for determining linearity by fractionating eluants, or decaying the elution for several days while data is being collected, is eliminated -- and at greatly reduced radiation exposures to personnel.

