Columbus Hospital

495 NO. THIRTEENTH ST. • NEWARK, N.J. 07107-1397 • (201) 268-1400

April 10, 1989

John E. Glenn, PhD, Chief
Nuclear Materials Safety Section A
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Dear Dr. Glenn:

This is in response to your letter of March 30, 1989, regarding the recent inspection at this facility. Please be advised that a "Calicheck" Dose Calibrator Linearity Test Kit has been purchased. This will allow performance of linearity tests immediately following repair or upon acquisition of loaner units. With regards to this, we are confused about Item 2 of Appendix A. The Model CRC-30 dose calibrator was returned to us on May 9, 1988 and the linearity test was started. It was performed con-currently with patient examinations in order that these vital patient services would not be curtailed. In addition, a linearity test was performed by Capintec following repair of the unit. Please refer to the attached. In light of this, we would like Item 2 rescinded.

Should you require any additional information, please do not hesitate to contact us at (201) 268-1484.

Sincerely yours,

John G. Magliaro,
Administrator

Columbus Hospital

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started 5-9-88 9^00

NUCLEAR MEDICINE DEPARTMENT

QUARTERLY LINEARITY TEST

CAPINTEC DOSE CALIBRATOR

MODEL # CRC-30

SERIAL # 30120

* Linearity done after returned from capintec for repairs.

TIME, HRS.		MEASURED READING	CORRECTION FACTOR	CALCULATED READING	WITHIN 5% RANGE
8^50	0 (5-9)	77.2 mCi	16	77.87 m	✓
3^15	6	37.5 mCi	8	36.76 m	✓
8^45	24 (5-10)	4.87 mCi	1.00	4.87 m	✓
3^20	30	2.56 mCi	0.50	2.44 m	✓
9^30	48 (5-11)	281 uCi	0.063	279 u	✓
3^00	54	148.2 uCi	0.031	152 u	✓
8^55	72 5-12	18.0 uCi	0.004	19 u	✓

TECHNIQUE: Place aproximately 30 mCi of Tc-99m in an empty vial, assay in dose calibrator and note time. Take additional readings at 6, 24, 30, 48, 54 and 72 hour intervals. Place in "Measured Readings" column. Use the 24-hour reading as the standard. Multiply this value by the Correction Factor for your "Calculated Reading." The ratio of measured to Calculated readings should be ± 5%. (ie - 0.95 to 1.05)

DATE: 5/18/88

INITIALS: PMT

COMMENTS: all OK - some CF's changed to show time discrepancies & also see graph

CAPINTEC INSTRUMENTS, INC.

REPORT OF CALIBRATION

Model CRC-30 Radioisotope Dose Calibrator serial no. 30120

Chamber: Y7379

Power Supply Tested ✓

Iometer Tested ✓

Bias Battery Tested ✓

Calibration

Calibration standards used for Instrument Calibration.

Radionuclide	Activity	Accuracy	Instrument Reading
Co-60	116.8 µCi	±1.8 %	set*
Co-57	.631 µCi	±1.9 %	set*
Cs-137	.7323 mCi	±2.3 %	.736 mCi

* Co-57 and Co-60 standards are used to set the calibration.

LINEARITY TEST (Optional)

Linearity of the chamber is tested by comparing the ratio of chamber outputs for high activity and low activity Tc-99m samples to that from the standard chamber.

✓ < 5% saturation at 2 Ci

_____ > 5% saturation at 2 Ci

DATE: 5/3/00

Frank P. Popp
Test Engineer

Remarks on back →