

JAN 8 1991

License No. 35-23125-01
Docket No. 30-20282/90-01

Memorial Hospital of Texas County
ATTN: Douglas K. Weaver
Administrator
520 Medical Drive
Guymon, Oklahoma 73942

Gentlemen:

This refers to your letter dated December 18, 1990, in response to our request for additional information dated November 19, 1990. We have reviewed your reply and have given consideration to the supplemental information provided by your consulting physicist.

In accordance with your view that the information provided by the hospital administrator and radiation safety officer (RSO) relative to Violation 3 was incorrect and merely the subject of a miscommunication, Violation 3 will be withdrawn.

With regard to Violation 5.A, we note that you have located the reference tables developed by your consulting physicist for use in evaluating daily dose calibrator constancy test results and have reinstructed personnel in the proper use of these tables. We acknowledge your belief that the radiology director misunderstood the inspector's request to review the acceptance criteria for daily constancy checks and therefore, did not provide them during the inspection. However, your assertion regarding the second aspect of this violation, the failure to provide a correction table for use when linearity test results exceeded a 5 percent deviation, is not supported by the information provided in your response.

As noted during the inspection, linearity test results for the referenced period had been documented in table format and had not been graphed as required nor had correction factors been determined for nonlinear instrument response over a range of activities. Although we note that you have since determined that radiopharmaceutical doses containing activities within the nonlinear range of response were not administered to patients, the failure to determine the appropriate correction factors at the time the linearity test was conducted is a violation of your license. While no adverse consequences resulted from the radiopharmaceutical doses and this fact certainly mitigates the severity of the violation, the failure was notable in that some members of the staff were uncertain about how such correction factors were derived. Based on your response, we understand that you have reinstructed personnel regarding this requirement and intend to conduct future inservice education to ensure that

*RIV:NMSIS	*C:NMSIS	*D:DRSS
LLKasner:st	CLCain	ABBeach
/ /91	/ /91	/ /91

*Previously Concurred

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REG4 LIC30
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ADMINISTRATOR
Douglas K. Weaver

BOARD OF CONTROL
James M. Boring
Fred Freeman
John Garrison
Gail Parsley
John Slater



MEMORIAL HOSPITAL OF TEXAS COUNTY

December 18, 1990

DEC 26 1990

A. Bill Beach, Director
Division of Radiation Safety and Safeguards
United States Nuclear Regulatory Commission, Region IV
511 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Reference: Docket No. 30-20282/90-01
License No. 35-23125-01

Dear Sir:

In response to your letter of November 19, 1990, I am appending the required information below:

VIOLATION 1. VIOLATION RELATED TO QUARTERLY RSC MEETINGS AND ATTENDANCE.

1. REASON OF VIOLATION IF ADMITTED

We admit during 1989, the RSC meetings were held in June, July, October and December. The RSO was not present at the meetings; he was briefed after the meetings, or his concerns were presented at the meetings or he himself presented concerns at the monthly meetings with the administration.

2. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

As communicated in letter dated September 15, 1990, as of the third quarter of 1990, the necessary members have been asked to attend all RSC meetings. Meetings took place on the dates specified below during the third and fourth quarters and the representatives of administration and the RSO were present. RSO and the management have full control of the operations, the director of radiology follows the directives of the RSO and reports to the RSO and the management.

3. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

Besides double reporting system, the RSO has been asked to implement audits and enforce radiation safety policies and provide guidance. Semiannual external audits will be conducted. These audits will be

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addressed to the RSO and copies will be sent by the consultant within two weeks of the audit. The first such audit will be January 15, 1991.

All meetings will be scheduled and all RSC members notified that in the event of an absence the meeting will be postponed until all can attend.

4. DATE OF FULL COMPLIANCE

Full compliance was achieved as of the meeting dated 09/27/90. All aspects of Nuclear Medicine operation were discussed. The NRC violations were reviewed.

VIOLATION 2. DIAGNOSTIC MISADMINISTRATION

1. The April 20, 1988 misadministration went undetected by all involved. The weakness was possibly due to lack of communication during the nuclear med orientation and training, resulting in this type of incident.

2. The Radiology/Nuclear Med staff has been inserviced on the importance of administering the correct dosages. Should the Radiopharmacy issue an incorrect dosage, proper steps will be taken to insure the correct dosage is administered.

A. If a lower than recommended dose is received, it will be returned and a new dose requested.

B. If a greater than recommended dose is received, the dose will be allowed to decay to the value recommended for administration.

3. To ensure that this will not recur, a policy stating the corrective measures for the receipt of an incorrect dose has been implemented.

VIOLATION 3. YEARLY REVIEW OF THE PROGRAM AND BRIEFING TO MANAGEMENT

1. SUPPORTIVE INFORMATION

As stated in the earlier letter dated September 18, 1990, the briefing by the RSO to management is at least once a year. However, the briefings are not on record. The supportive data for this is the attendance of the staff radiologist at the quarterly radiation staff meetings.

2. MEASURES TO AVOID OCCURRENCE

A written report of the yearly report by the RSO will ensure the fulfillment of the reporting procedure.

3. THIS VIOLATION IS DENIED

The RSO did meet with administration to discuss the by-product material program several time throughout the year. There was a miscommunication regarding this violation. Yes, they met at least once or more annually, no not monthly. Proof is in the attendance noted during quarterly radiation safety meetings.

VIOLATION 5. DOSE CALIBRATOR CONSTANCY MEASUREMENTS AND DOSE CALIBRATOR LINEARITY

A. (i) TOLERANCE LEVELS FOR DAILY CONSTANCY

The records of the consultant physicist indicate that the tolerance levels were established and tables were provided as of January 1989 for Co-57 and Cs-137 sources. They were not shown to the inspector due to a miscommunication between the NRC and Radiology Director. Tables, rather than graphs, were established to record tolerance levels for daily constancy.

A. (ii) DOSE CALIBRATOR LINEARITY TESTS September 1989 and April 1990 Linearity Tests:

Pertinent linearity reports indicate the factors in question. Radionuclide activities delivered to the patients did not fall in the range of corrections and thus no correction factors were necessary. No safety violation has occurred. Violation is denied as we were already in compliance for Appendix C of Regulatory Guide 10.8, Revision 2. (see table attached).

1. REASONS OF VIOLATION:

- A. (i) Reason of violation is considered to be due to lack of knowledge of the staff for these records.
- A. (ii) This violation is not admitted as appropriate correction factors were available.

2. MEASURES IMPLEMENTED TO PREVENT RECURRENCE:

Appropriate inservice was provided to the staff on July 31, 1990 and these tables have been placed in Nuclear Medicine laboratory.

3. DATE OF FULL COMPLIANCE:

Full compliance was achieved on July 31, 1990. These items will be reviewed in the next staff inservice to be provided by the consulting physicist.

December 18, 1990

B. WIPE TEST OF AREA WHERE RADIOPHARMACUTICALS ARE ADMINISTERED

1. REASONS OF VIOLATIONS

Violation occurred due to lack of knowledge by Radiology Director - not knowing the wipe test needed to be performed. Prepared unit doses of radiopharmaceutical are received and administered, the chances of contamination has never been conceived and pertinent areas have always been thoroughly surveyed. The probe is held quite close to the area in question and the surveyed area is larger than 100 sq. cm.

2. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED

As stated in letter dated September 18, 1990, partial measures were incorporated as of October 9, 1990, weekly wipe tests were performed and removable activity was counted or expressed in terms of mr/hour using a survey meter. However, we have placed order for a suitable equipment which will facilitate to express the removable contaminants in terms of micro Ci units. Until that time we will decontaminate any area whose wipe test reveals mr/hour more than that of the background.

3. CORRECTIVE STEPS TAKEN TO DETER FURTHER VIOLATIONS

A check list of daily/weekly requirements will be prepared and will be verified by the director of radiology on routine basis. An inservice by the consultant is scheduled in January 1991. This will cover all items of noncompliance/compliance and verification of corrective actions.

4. DATE OF FULL COMPLIANCE

The delay was due to the time involved in getting the survey underway. Tentative date of this full compliance has been set to January 15, 1991.

Please feel free to contact me if any other information is required.

Sincerely,



Douglas K. Weaver
Administrator

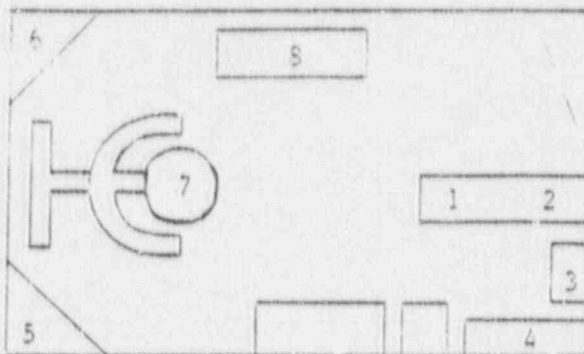
DKW:jb

attachments

RADIATION SURVEY

INSTRUMENT: LUDLUM SURVEY METER
 Model 14-C
 Serial #721-006B

- 1. drawing station
- 2. dose calibrator
- 3. sink
- 4. storage cabinets
- 5 & 6. collimators
- 7. Gamma Camera
- 8. cot; injection area



mR/hr at location...

Date	1	2	3	4	5	6	7	8	Init/RSO
10-5-90	.01	.01	.01	.01	.01	.01	.01	.01	De/OS
10-19-90	.01	.01	.01	.01	.01	.01	.01	.01	De CS
10-31-90	.01	.01	.01	.01	.01	.01	.01	.01	
11-16-90	.01	.01	.01	.0	.01	.01	.01	.01	OS/GW
11-21-90	.01	.01	.01	.01	.01	.01	.01	.01	De
11-30-90	.01	.01	.01	.01	.01	.01	.01	.01	De

Linda,

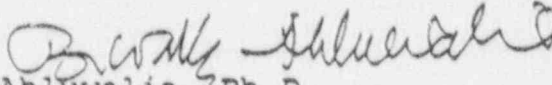
Although our survey meter did not read accurately for these readings, we have performed this survey for habitual purposes, to get this incorporated ASHP? until we've received our survey meter with its new capabilities.

THIS SURVEY IS TO BE DONE WEEKLY

MEMORIAL HOSPITAL, GUYMON, OKLAHOMA

DECAY CART WITH 5% ALLOWABLE LIMITS
COMPARE THE MEASURED VALUES WITH THESE
RADIONUCLIDE: Barium-133 Half Life 10.5 Years
SOURCE: Ba-133 ICN Mod: MLD01, Sr# 155087C
279 MICRO CI on 6-19-1984

MONTH	YEAR	EXPECTED ACTIVITY MICRO CI	5 % BELOW EXPECTED MICRO CI	5 % ABOVE EXPECTED MICRO CI
1	1989	206.2	195.9	216.5
2	1989	205.0	194.8	215.3
3	1989	203.9	193.7	214.1
4	1989	202.8	192.7	212.9
5	1989	201.7	191.6	211.8
6	1989	200.6	190.6	210.6
7	1989	199.5	189.5	209.5
8	1989	198.4	188.5	208.3
9	1989	197.3	187.4	207.2
10	1989	196.2	186.4	206.0
11	1989	195.1	185.4	204.9
12	1989	194.1	184.4	203.8
1	1990	193.0	183.4	202.7
2	1990	191.9	182.3	201.5
3	1990	190.9	181.3	200.4
4	1990	189.8	180.4	199.3
5	1990	188.8	179.4	198.2
6	1990	187.8	178.4	197.2
7	1990	186.7	177.4	196.1
8	1990	185.7	176.4	195.0
9	1990	184.7	175.5	193.9
10	1990	183.7	174.5	192.9
11	1990	182.7	173.5	191.8
12	1990	181.7	172.6	190.8
1	1991	180.7	171.6	189.7
2	1991	179.7	170.7	188.7
3	1991	178.7	169.8	187.6
4	1991	177.7	168.8	186.5
5	1991	176.7	167.9	185.6
6	1991	175.8	167.0	184.6
7	1991	174.8	166.1	183.6
8	1991	173.9	165.2	182.5
9	1991	172.9	164.3	181.5
10	1991	172.0	163.4	180.5
11	1991	171.0	162.5	179.6
12	1991	170.1	161.6	178.6


B. Wally Ahluwalia, Ph.D.
MEDICAL PHYSICIST
JANUARY 1989

MEMORIAL HOSPITAL, GUYMON, OKLAHOMA

DECAY CART WITH 5% ALLOWABLE LIMITS

COMPARE WITH THE MEASURED VALUES

RADIONUCLIDE: Cs-137 Half Life 30 Years

SOURCE: Cs-137 ICN Mod:MLD01 Sr#155087B

260 MICRO CI on 6-19-1984

MONTH	YEAR	EXPECTED ACTIVITY MICRO CI	5 % BELOW EXPECTED MICRO CI	5 % ABOVE EXPECTED MICRO CI
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1	1989	233.9	222.2	245.6
2	1989	233.4	221.8	245.1
3	1989	233.0	221.3	244.6
4	1989	232.5	220.9	244.2
5	1989	232.1	220.5	243.7
6	1989	231.6	220.1	243.2
7	1989	231.2	219.6	242.8
8	1989	230.7	219.2	242.3
9	1989	230.3	218.8	241.8
10	1989	229.9	218.4	241.4
11	1989	229.4	217.9	240.9
12	1989	229.0	217.5	240.4
1	1990	228.5	217.1	240.0
2	1990	228.1	216.7	239.5
3	1990	227.7	216.3	239.0
4	1990	227.2	215.9	238.6
5	1990	226.8	215.4	238.1
6	1990	226.3	215.0	237.7
7	1990	225.9	214.6	237.2
8	1990	225.5	214.2	236.8
9	1990	225.0	213.8	236.3
10	1990	224.6	213.4	235.8
11	1990	224.2	213.0	235.4
12	1990	223.8	212.6	234.9
1	1991	223.3	212.2	234.5
2	1991	222.9	211.7	234.0
3	1991	222.5	211.3	233.6
4	1991	222.0	210.9	233.1
5	1991	221.6	210.5	232.7
6	1991	221.2	210.1	232.2
7	1991	220.8	209.7	231.8
8	1991	220.3	209.3	231.3
9	1991	219.9	208.9	230.9
10	1991	219.5	208.5	230.5
11	1991	219.1	208.1	230.0
12	1991	218.6	207.7	229.6

B. Wally Ahluwalia

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 MEDICAL PHYSICIST
 JANUARY 1989

MEMORIAL HOSPITAL, GUYMON, OKLAHOMA

DECAY CART WITH 5% ALLOWABLE LIMITS

COMPARE WITH THE MEASURED VALUES

RADIONUCLIDE: Cobalt 57 Half Life 270 Days

SOURCE: Co-57 DAMRI 2122002 No: 946/Lot #54

5.49 MILLI CI on 12-5-1988

MONTH	DAY	YEAR	EXPECTED ACTIVITY MILLI CI	5 % BELOW EXPECTED MILLI CI	5 % ABOVE EXPECTED MILLI CI
1	1	1989	5.131	4.875	5.388
1	8	1989	5.040	4.788	5.292
1	15	1989	4.951	4.704	5.199
1	22	1989	4.864	4.620	5.107
1	29	1989	4.778	4.539	5.016
2	1	1989	4.747	4.510	4.985
2	8	1989	4.663	4.430	4.896
2	15	1989	4.581	4.352	4.810
2	22	1989	4.500	4.275	4.725
2	28	1989	4.431	4.210	4.653
3	1	1989	4.392	4.172	4.611
3	8	1989	4.314	4.098	4.530
3	15	1989	4.238	4.026	4.450
3	22	1989	4.163	3.955	4.371
3	29	1989	4.089	3.885	4.294
4	1	1989	4.063	3.860	4.266
4	8	1989	3.991	3.792	4.191
4	15	1989	3.921	3.725	4.117
4	22	1989	3.851	3.659	4.044
4	29	1989	3.783	3.594	3.972
5	1	1989	3.759	3.571	3.947
5	8	1989	3.693	3.508	3.877
5	15	1989	3.627	3.446	3.809
5	22	1989	3.563	3.385	3.741
5	29	1989	3.500	3.325	3.675
6	1	1989	3.478	3.304	3.652
6	8	1989	3.416	3.245	3.587
6	15	1989	3.356	3.188	3.523
6	22	1989	3.296	3.132	3.461
6	29	1989	3.238	3.076	3.400
7	1	1989	3.217	3.057	3.378
7	8	1989	3.160	3.002	3.318
7	15	1989	3.105	2.949	3.260
7	22	1989	3.050	2.897	3.202
7	29	1989	2.996	2.846	3.145

WHEN THE VALUE OF THE SOURCE IS BELOW 0.50 MILLI CI
THE INSTITUTION IS REQUIRED TO BUY A NEW SOURCE

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JANUARY 1989