Fletcher Allen HEALTH CARE

In alliance with The University of Vermont

July 8, 2008

MSC6

P-6

Nuclear Materials Safety Section
Division of Radiation Safety and Safeguards
United States Nuclear Regulatory Commission Region I
475 Allendale Road
King of Prussia, PA 19406

RE: Fletcher Allen Health Care
License # 44-10187-03 03003289
Control #142347

In response to your questions of Thursday, July 3, 2008:

The space given as Room 2523 in the amendment of April 1987 is actually a Room 2513, so this was a typo. As way of documentation of the existence and use of this space, I've attached a protocol that was in the files which was for doing wipe tests. This gives information about Room 2513 and notes the use of that room. The Room 2513 contained the scintillation counter. I've not been able to find any reference to a room 2523. All manipulation of H-3 labeled materials was performed in the Rooms 2102 and 2102A. The test resulted in "blots" that contained very small quantities of H-3 which were placed in liquid scintillation vials and capped. These capped vials were then transported to the liquid scintillation counter for counting, then returned, still capped, to 2102 for disposal. At no time was uncapped material out of the rooms that were designated as working rooms and regularly wipe tested. Room 2513 was thus not designated as a space for wipe tests.

The record for 4/30/2002 indicates that there was no radioactivity that went to "waste". This is because all of the activity was used for testing. Of 250 uCi that was originally available form the stock of 4/19/2002, 51 uCi was used in the first "batch", 192 uCi in the second, and 7 uCi in the third, as determined by volume. Thus, the entire volume of stock solution was used. For other entries that indicate activity to "waste", it was because some volume remained and was disposed of prior to ordering new activity. The residual volume would be disposed of utilizing the designated sink into the sanitary sewer.

Please let me know if this answers your questions. As you know, I may be reached at (802) 847-4845 or marleen.moore@vtmednet.org.

Sincerely,

Marleen M Moore

Marleen Moore, M.S.
Radiation Safety Officer
Fletcher Allen Health Care

142347

NMSS/RGN1 MATERIALS-002

Contamination Survey (Monthly)

I. PRINCIPLE:

Immunology uses Thymidine, a radioactive label, for the MLC and Immunocompetence tests. Monthly, it is necessary to do a wipe test at 7 locations throughout the UHC laboratory where this radioactive label is used and count it on the scintillation counter.

II. MATERIALS AND EQUIPMENT:

1. 8 Scintillation vials with caps.
2. Ultima Gold Solution (located in 2513).
3. Sterile cotton-tipped applicator sticks (located in the cabinet below the Q-Prep)
4. Contamination survey worksheet (located in file cabinet in Rm 2101).

III. PROCEDURE:

1. Take 8 scintillation vials with caps and label the caps with contamination survey, tissue typing and number 1-8.
2. Add 10 ml of Ultima Gold solution to each vial.
3. Using the diagrammed worksheet, do a wipe test on each of the numbered areas located in Immunology as follows:
   a) Using a dry sterile applicator stick wipe an approximate 100 cm^2 area at each numerical location.
   b) Dip the applicator stick into the appropriate labeled scintillation vial containing Ultima Gold and mix in solution.
   c) Discard applicator stick in trash and cap scintillation vial.
   d) For the 8^{th} vial-Blank, use a clean applicator stick, wipe on paper towel and mix in the scintillation fluid.
   e) Store the vials at 4°C until counted. They may be stored up to one week.

IV. MEASURING THE TRITIUM

1. The contamination survey is counted in Immunology's scintillation counter located in Room 2513.
2. Racks are in the counter. The red dot on the rack should be on the right. Load the vials into the rack from left to right, on the right half of the machine. Count the standard and blank vials after the survey.
3. Close the lid.
4. The digital readout will display "press and key...". Press **ENTER**.
5. Press **START**. The counter will bring up a list of protocols to run. Scroll to protocol 3 (PROTO3 1 MIN 1 VIAL) and press **ENTER** to choose.

6. Counting will begin.

7. Check the printer to be sure it is on line.

V. CALCULATIONS:

1. The scintillation counter will calculate the counts per minute; write this number under cpm (counts per minute) on the worksheet.

2. Calculate the DPM (degradations per minute) for each vial using the following formula and record under DPM on worksheet (if the test CPM is less than the Blank CPM, record 0 under DPM). The DPM formula allows for quench correction and the uncertainty of which isotope might be a contaminant.

$$DPM = 2.5 \times (CPM\text{-}Blank)$$

3. If the DPM's are all less than 200, make 2 copies of the worksheet:

   a) File one copy in the Isotope Records book under contamination survey.
   b) Send the original copy to Doug Hoes – Med. Physics – SB02

4. If the DPM exceeds 200, clean the area.

5. If the DPM exceeds 20,000, call the Radiation Safety Office at 73506.

6. Records for contamination surveys must be kept for 3 years.

VI. WASTE DISPOSAL

1. The scintillation cocktail can be disposed of daily, up to 2500 ml (approximately 2/3 gallon, 250 uci) down the sink in room 2102A. Rinse with a large amount of water. Record on the chart located in the Isotope Records binder.