

**From:** [Ullrich, Elizabeth](#)  
**To:** ["Russell, Erica A."](#)  
**Cc:** ["Bose, Satya R."](#)  
**Subject:** RE: HU Additional Information to Amend License 08-00386-19  
**Date:** Monday, June 18, 2012 6:53:00 PM

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Dr. Bose and Ms. Russell,

I need further clarification on a few items stated in your letter dated June 12, 2012:

1. Your letter describes the waste storage area as 3.2 feet by 12 feet (appr 38 square feet) however, the diagram (figure 1) on the summary page shows a rectangle with a long side showing the dimension of 10 feet, 11 inches, and the short side showing a dimension of 24 feet, 10 inches. There appears to be a narrow hall way that is shown 4 feet 9 inches wide, leading to the left to an wider area shown as 3 feet 2 inches wide; to the right, it leads to an area shown as 6 feet wide. I don't know how to compare this to your description of an area "3.2 feet x 12 feet". In addition, the diagrams shown for the close out surveys show an area which is nearly square, not a long narrow area as would be described by "3.2 feet x 12 feet."
  - a. Please explain what the actual dimensions of the room are, and explain what the dimensions in Figure 1 refer to, if they are not the dimensions of the waste storage area.
  - b. please use diagrams that show the dimensions of the room more accurately, with the location of survey points.
2. The count rate survey appears to be the survey you want to sue to document the total residual contamination levels. (Please note that the total residual contamination is more difficult to measure with a count rate meter, and would have been easier to do with a survey instrument set in scaler mode.) All the results you provided were in CPM (counts per minute), however, your results should be in DPM and should be compared to the screening values for your most conservative radionuclide with a half-life greater than 120 days; in this case, your limiting radionuclide would be carbon-14, and the screening value is 3.7 E6 dpm per 100 square-centimeters area. Please provide your results in dpm/100 sq-cm for your fixed readings.
3. The survey results for removable contamination were reported in dpm per swipe. State the area that was swiped and report the results in dpm/100 sq-cm. If the swipe results need to be adjusted, re-submit the results. (Please note that the residual removable contamination levels must not exceed 10% of the total residual contamination screening value.)
4. Plotting the results of your surveys on the diagrams provided show elevated total residual CPM in the back right-side corner of the diagram; and removable counts above background in the same area, as well as in the area near the table and door. Especially if residual activities were closer to the screening values, such plots are useful in identifying areas that may require additional attention. No response to this item is required at this time, because the removable contamination levels were well below the screening value.

5. The minimum detectable activity was not specified for the count rate meter used for total fixed residual contamination measurements, or for the gamma counter and LSC used for removable contamination levels. Please provide that information.

Please respond to this request for additional information in writing, by hard copy letter signed by management, or by pdf or facsimile of a signed letter. If you have any questions, please contact me.

Thanks,  
Betsy  
Betsy Ullrich  
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**From:** Russell, Erica A. [mailto:[erica.russell@Howard.edu](mailto:erica.russell@Howard.edu)]  
**Sent:** Tuesday, June 12, 2012 1:03 PM  
**To:** Ullrich, Elizabeth  
**Cc:** Bose, Satya R.  
**Subject:** HU Additional Information to Amend License 08-00386-19

Good Afternoon Ms. Ullrich,

Attached you will find the requested additional information to amend Howard University License 08-00386-19.

Regards,

*Erica A. Russell, M.A.Ed.*  
*Howard University Health Sciences*  
*Radiation Safety Office*  
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“We are what we repeatedly do. Excellence, then, is not an act but a habit.” ~ Aristotle

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