

**Memorandum**

DATE 08 April 2016

TO Licensing Assistance Team  
US Nuclear Regulatory Commission Region I  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713

FROM Office of the Associate Director for Laboratory Science and Safety  
Radiation Safety Office

SUBJECT U.S. Department of Health & Human Services, Request for Additional Information  
Concerning Application for a License Amendment, Control 588982

1. Table 4-1 and Table 4-2 have the same title. Please confirm that Table 4-2 is the RAW Room #1 Ceiling and Upper Walls.

**REPLY:** Table 4-2 updated to reflect accurate title – “RAW Room #1 Upper Walls and Ceiling”.

2. For alpha scanning some clarity is needed. Please confirm that you will only do alpha scans with the 821 cm<sup>2</sup> probe. An example calculation was not provided for these scans. Based on my calculation, a probability of 80% is achievable for  $P(n \geq 2)$  not the 95% probability stated. ( $G = 75$  dpm \* 8.25,  $E = 0.1$ ,  $B = 9.5$  cpm,  $d = 15.9$  cm,  $v = 6.35$  cm/s) Please inform me if my understanding is incorrect and what other adjustment I should make, or provide an example calculation.

**REPLY:** The calculation is provided in Section 8.3.3.2 Count Detection Probability 821 cm<sup>2</sup> Probe of the revised Decommissioning Plan. For the calculation, in accordance with Appendix J in NUREG 1575, ( $G = 75$  dpm \* 8.21,  $E = 0.20$  (the  $4\pi$  efficiency of the instrument)  $B = 9.5$  cpm,  $d = 15.9$  cm,  $v = 6.35$  cm/s).

3. Table 8-2 contains detector 43-89 while Table 8-1 contains detector 43-93. Please have Table 8-1 and 8-2 contain the same instrumentation that will be used.

**REPLY:** Tables have been updated to reflect the use of the 43-93.

4. The MDC value to the Large Area Probe Beta Detector 43-37-1 appears to be inaccurate. Please recalculate this value or provide calculation.

**REPLY:** The calculation is provided in Section 8.3.2.2 Large Area Probe Beta Ratemeter Scanning MDC of the revised Decommissioning Plan. For the calculation, in accordance with equations 6-8, 6-9, and 6-10 in NUREG 1575, ( $d' = 1.38$ ,  $b_i = 49.98$  (2,400 cpm \* 1.25 seconds \* 1 minute / 60 seconds),  $I = 1.25$  seconds,  $p = 1/\sqrt{0.5}$ ,  $\epsilon_{tot} = 9.6$  (Instrument Efficiency of 38.47% \* Surface Efficiency of 25%,  $A = 100$  cm<sup>2</sup>).

5. Section 17.3.1 and 17.3.2 presents Class 1 and Class 2 areas. These areas are presented in graphical form in the response to previous question number 7. However, in the plan the ceiling of RAW Room #1 is determined to be Class 1 but in the schematic it is Class 2. Section 17.3.2 presents the loading dock, parking pad, and walkup ramp as Class 2, the schematic presents it as Class 3. Please clarify the area classifications for these two areas.

**REPLY:** Area classifications are as indicated in Section 17.3.1 and 17.3.2, and have been updated in the schematic to accurately reflect these classifications.

Question from email dated March 08, 2016:

Pb-210 is listed as a radionuclide historically stored in the Radioactive Waste Room #1 at the Chamblee Building I. An analysis of Pb-210 was not provided in the Decommissioning Plan for the development of DCGLs. Please justify excluding Pb-210 from consideration as a radionuclide of concern or provide the RESRAD-BUILD analysis of Pb-210.

**REPLY:** Pb-210 has been excluded from consideration as a radionuclide of concern, and all references to Pb-210 have been removed from the Decommissioning Plan. Pb-210 has historically never been stored and/or disposed of through Radioactive Waste Room #1. "Although the CDC does possess Pb-210, we have not disposed of any Pb-210 to date. The two CDC laboratories that use the Pb-210 use it infrequently and in such low volumetric quantities and also in low activities (on the order of nano-Curies). By using Pb-210 so infrequently and at these low volumes and low activity levels, those two laboratories have not generated any radioactive waste containing Pb-210, and therefore, the CDC did not store any radioactive waste containing Pb-210 in Building 1 located at the Chamblee Campus, address, 4770 Buford Highway, Chamblee, GA 30341. The CDC-Atlanta Radiation Safety Officer verified this by reviewing their past radioactive waste disposal records and the radioactive waste manifests from the CDC radioactive waste broker, Bionomics, Inc."

The decommissioning plan has been updated to reflect this revised approach for Pb-210.

For additional information regarding this License Amendment Application, Control No. 588982, please contact Narvaez L. Stinson, Deputy RSO at [NStinson@cdc.gov](mailto:NStinson@cdc.gov) or by telephone at 404-639-2486.



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