From:	Lawyer, Dennis
To:	Ramsey, Amy J CIV USARMY RDECOM (US)
Subject:	Department of the Army, Request for Additional Information Concerning Application for a License Amendment, Control 602458, Docket 03004552, Lic. No. 19-10306-01
Date:	Monday, March 12, 2018 4:20:00 PM

Dear Ms. Ramsey,

This is in reference to your letter dated February 9, 2018, requesting for amendment to Nuclear Regulatory Commission License No. 19-10306-01, Docket No. 03004552. In order to continue our review, we need the following additional information:

1. Your email that sent your letter was marked as Official Use Only but the cover letter and report that was attached to the email was not. We may secure documents from the public that are determined by the Army as non-public, but these documents were not marked as such. Is the report and cover letter considered Official Use Only by the Department of the Army and if so why isn't the document marked as such? Alternately, you may request for the document to be deleted and submit a redacted copy.

2. Section 1.1 of the report states that material with <120 days and Ca-45 would have been decayed and not expected to remain. No further explanation is given. Please state the last use of these radionuclides and the amount of material that existed when they were removed from the building.

3. Please provide the calibration certificates and the efficiency determinations for the survey probes and meters used. On page A-5, the efficiency is 0.12. On page A-6 the efficiency is 0.071. Table 2 of Part 1 of the report gives estimated 2 Pi efficiency but does not give any basis for what efficiency was determined by actual sources. Most seem reasonable, however the efficiency for Eu-154, Eu-155 seem high as these are either low energy or low abundance beta emitters. Please provide a basis for the efficiency estimates.

4. The data provided in the report showed a background of 1500 cpm on page A-4, 440 cpm on A-5, and then a range of 349 cpm to 539 cpm depending upon the materials in Table 3-1. It is unclear why there is such a variation of backgrounds and based upon static measurements given, it would appear background may have not been assessed properly. Please give the bases for these backgrounds and when they would be used.

5. Part 1 of the report states that wipes were analyzed by a liquid scintillation chamber. However the report appear to show that the wipes were only counted with tritium and carbon 14 channels. Thus it would appear that the potential isotopes in Table 1 would not have been detected by this method. Please provide additional information on how the wipes were counted and present documentation associated with the results.

6. It is stated in the Initial Assessment section of addendum Part I that the 43-37 gas

proportional detector scans are sufficient to show that the DCGLs in Table 2 or 3. Table 2 shows some information that is not standard. The background readings are all 10000 dpm/100cm^2. This is normally displayed in counts, it is unclear what efficiency is used for this determination. Then it has a background time of 10 (no units). The scan MDC formula is given in Appendix A and has no timed background is in the formula. The sample time shows one (no units) which would not be a scan. The scan DCGLs did not have an investigative limit until 150,000 dpm/100 cm^2. Therefore, it does not appear that the scans were performed adequately for these additional isotopes. Please provide another discussion associated with how the previous scans meet the requirements for each isotope. Provide formulas and examples associated with the results.

7. It did not appear there was a review of the fixed point surveys and how it would have related to the other potential isotopes of concern. Please provide this discussion along with calculated results.

8. Table 3 shows isotopes with a different instrument. It specifies natural thorium as a DCGL of 53 dpm/100 cm^2. It shows it was determined by DandD version 2.1.0. This does not appear to correlate with published DCGL nor with DandD version 2.40. Please provide the calculation for the isotope.

9. Please provide the calibration certificate for the Ludlum 43-93 detector and instrument. Please provide the calibration efficiencies for this instrument. Please provide if it was counted in alpha beta mode or alpha only mode. Please provide how the areas was scanned and procedures used to determine if the area was contaminated.

We will continue our review upon receipt of this information. Please reply to my attention at the Region 1 Office (Address below) and refer to Mail Control No. 602458. If you have technical questions regarding this letter, please call me at (610) 337-5366.

Your reply must be an originally signed and dated letter. The letter may be scanned and submitted as a pdf document attached to an email; or it may be transmitted by facsimile to (610) 337-5269; or it may be sent by regular mail. If we do not receive a reply from you within 30 calendar days from the date of this e-mail, we will assume that you do not wish to pursue your application OR amendment request.

Please respond by e-mail to acknowledge that you have received the e-mail request for additional information.

Region 1 Office Mailing Address: Licensing Assistance Team, US Nuclear Regulatory Commission Region I, 2100 Renaissance Boulevard, Suite 100, King of Prussia, PA 19406-2713.

Dennis Lawyer
U.S. NRC Region 1

Health Physicist
610-337-5366