UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713

June 18, 2020

Mary E. Brandt, Ph.D., Director, Office of
Laboratory Safety
U.S. Department of Health & Human Services
Centers for Disease Control & Prevention
1600 Clifton Road N.E.
Atlanta, GA 30329-4018

SUBJECT: U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES, CENTERS FOR DISEASE CONTROL & PREVENTION, REQUEST FOR ADDITIONAL INFORMATION, MAIL CONTROL NO. 617658

Dear Dr. Brandt:

This is in reference to the letter dated December 30, 2019, from Narvaez Stinson, submitting the updated Decommissioning Funding Plan (DFP) as required by 10 CFR 30.35(e) and the letter dated May 4, 2020, with the Final Status Survey Report dated August 6, 2018. In order to continue our review, we need the following additional information:

Request for Additional Information for the Final Status Survey Report (FSSR) dated August 6, 2018

1. The following items refer to Section 2.0, Facility Operating History,"

    a. Section 2.1 "Licensed Operations"
        i. This section states that uranium and thorium authorized on the license were removed by amendment No. 44 in 2007 because the quantities were "exemptible from licensing based on the specific exemptions in 10 CFR 40.14 and 40.22." This and other similar statements are not correct. 10 CFR 40.14 allows the NRC to grant exemptions, but we have no record of any such exemptions requested by, or granted to, this licensee in our licensing documentation. Natural uranium and natural thorium possessed and used pursuant to 10 CFR 40.22 are under a general license and must be included in the decommissioning final status surveys. Confirm that uranium and thorium use will be reviewed and surveys performed in any facility in which uranium or thorium was used or stored, prior to release of the facility for unrestricted use.

        ii. This section does not state which laboratories used uranium and thorium. Table 2-1 indicates that natural uranium and thorium were used only in Building 110, Laboratory 4207C, on the Chamblee Campus. However, the Decommissioning Funding Plans submitted to the NRC in 2013 and 2017

stated that this building contained 1 laboratory using special nuclear materials (SNM) and multiple laboratories using only iodine-125 (I-125) and sulfur-35 (S35). Please explain this discrepancy.

iii. This section states that use of uranium and thorium was several orders of magnitude less than the release criteria, but the FSSR does not state what criteria was used for this comparison. The NRC default screening values require that the total residual uranium-238 not exceed 101 disintegrations per minute per 100 square centimeters area (dpm/100 cm^2), of which not more than 10% (10 dpm/100 cm^2) may be removable contamination. The applicable value for thorium-232 is 7 dpm/100 cm^2 total residual contamination of which not more than 0.7 dpm/100 cm^2 be removable contamination. Please provide your calculations that demonstrate your statement, and the release criteria to which you refer.

iv. This section further states that leak test records and historical radiological survey results indicated that the radioactivity in these areas was less than the release criteria. We note that there are also similar statements in other sections of the Final Status Survey Results. However, leak testing was not required for this material, and NRC inspection records indicate that the surveys performed were not sufficiently sensitive to detect uranium and thorium at the NRC screening values for release for unrestricted use. NRC inspection records also indicated that the routine surveys only were wipe surveys for removable contamination, not static surveys performed to assess total residual contamination. NRC inspection records further indicate that the criteria used for release of laboratories using alpha-emitting radionuclides was not updated when the NRC screening values for release of facilities was issued in the 1990's. As a result, in previous requests to release buildings for unrestricted use, you were required to perform additional surveys with sufficient sensitivity to determine if the buildings met current NRC screening values. Please state the criteria used in the routine surveys which you believe indicate that residual alpha contamination is less than the current NRC screening values for release criteria described in Item 1.a.iii above.

b. Section 2.3 contains an error in the sentence discussing the use of natural uranium and thorium. Please provide the corrected paragraph.

c. Section 2.6 states that there is no record of any on-site burials within the labs considered in this final status survey. We would not expect on-site burials within the labs. Please state if there are, or were, any on-site burials or other disposals of radioactive materials anywhere on the Roybal or Chamblee campuses.

2. Section 3.1 states that "The facility is currently owned by the CDC. The facility will be demolished after unrestricted release." Please identify each of the buildings discussed in the Final Status Survey Results that will be demolished, and if the building(s) already has (have) been demolished.

3. Section 5.1 states that the only radionuclides of concern were tritium and carbon-14. Section 5.2 also addressed only tritium and carbon-14. Explain why uranium, thorium, and special nuclear materials were not addressed in this section.

4. Section 5.3 states that tritium could not be adequately surveyed using direct field measurements. It further states that "...Philotechincs verified the removable results..." Explain this verification process.

5. Section 5.4 "unity" states that "Unity was applied to each applicable sample location in Survey Unit 3 only, as it was also conservatively surveyed for alpha, to determine compliance." However, there is not criteria for "alpha" and no description of which radionuclides were considered for "unity".

6. Section 8.3.3 discusses scanning for alpha.

    a. This section states that the larger area probe (approximately 800 cm^2) could identify 75 dpm/100 cm^2, moving at 1.5 inches per second and would be suitable for scanning for uranium, but not for thorium. Confirm if that was the Model 43-37-1 Large Area Probe Alpha listed in Table 8-1.

    b. Explain how surveys for thorium were performed, given that there was not a instrument with suitable scanning sensitivity.

    c. Explain the basis for the use of 75 dpm/100 cm^2 as survey criteria.

    d. Explain why surveys were not performed for SNM materials that may have been used in Room 4207C in Building 110 at the Chamblee Campus.

    e. The "Survey Unit-3 Location Map" for Building 15, Room 4207C on the Chamblee Campus, states that the instrument used was a Ludlum 2224 with a 43-93 Detector. According to Table 8-1, the 43-93 detector is a small area probe not suitable for the required surveys for alpha emitters. Explain why the small probe detector was used instead of the required large area probe detector, in a room in which uranium and thorium were used.

7. Table 8-2 appears to use a Derived Concentration Guildeline Level (DCGL) of 150 dpm/100 cm^2 for total alpha contamination, and 15 dpm/100 cm^2 removable alpha contamination, but there is no discussion in the FSSR of how this value was derived. Explain how the alpha DCGL was derived. We note that it exceeds both the NRC screening value for uranium-238 (101 dpm/100 cm^2) and thorium-232 (7 dpm/100 cm^2).

8. Section 18.4 states that radionuclide verification was performed for carbon-14 and tritium. State if radionuclide confirmation was performed for uranium, thorium, or SNM. If not, explain why not.

9. Appendix G does not contain any results for removable contamination from alpha emitters used in Building 15, Room 4207C.

10. According to the FSSR, you surveyed the following facilities for release for unrestricted use: Roybal Campus, Building 15 (Rooms SB401, SSB401 and SB101), 17 (Rooms 4085 and 5130) 18 (rooms 5-412 and B703B.3) and 23 (rooms 10-624, 10-654, 10-439 and 10-471); and Chamblee Campus, R Building 110 (Room 4207C). However, the number of the rooms identified as decommissioned does not agree with the number of rooms described in the decommissioning funding plans (DFP) submitted in the past. We also identified inconsistency in the descriptions of the facilities in those DFPs and in past license amendment requests.

    a. Roybal Campus, Building 15: The 2018 FSSR stated that only 3 rooms were surveyed (SB401, SSB401 and SB101). However,
        - the 2009 DFP stated this building was opened in 1988, and in 2009 there were 6 laboratories using H3 and S35;
        - the 2013 DFP stated that the building opened in 2013, there were 4 active laboratories using C14 and S35 and 1 inactive laboratory;
        - the 2017 DFP stated the building opened in July 1988, and in 2017 there was 1 active laboratory using H3 and S35, and 5 inactive laboratories;
        - the 2019 DFP stated the building was decommissioned in 2018.

        Based on the submitted information, at least 6 laboratories in Building 15 should have been included in the Final Status Survey of Building 15. Explain why all laboratories used for licensed activities were not included in the Final Status Survey. Also, please explain the discrepancy in the description in the 2013 DFP.

    b. Roybal Campus, Building 17: The 2018 FSSR stated 2 rooms only were surveyed (4085 and 5130). However,
        - the 2009 DFP stated that Phase 1 of this building opened September 2000, and in 2009 had 5 laboratories using C14 and S35; and that Phase 2 opened September 2001 and in 2009 had 2 laboratories using P32;
        - the 2013 DFP did not list Building 17;
        - the 2017 DFP stated that Building 17 opened September 2000 and in 2017 had 5 inactive laboratories;
        - the 2019 DFP lists it as decommissioned.

        Based on the submitted information, at least 7 laboratories should have been included in the Final Status Survey of Building 17. It is also unclear why this building was omitted from the 2013 DFP. Explain why all laboratories used for licensed activities were not included in the Final Status Survey.

        We also note that Amendment 37 was issued July 17, 2001, approving the use of U235. Pu239, and Pu242 in quantities of 0.01 microcuries each, as well as a variety of other radionuclides, for use in Building 17. This was based on letters dated April 20, 2001 and July 13, 2001. The April 20 letter also stated that uranium and thorium radionuclides were already in use there. Please verify which laboratory(ies) used these materials and confirm that surveys will be performed for these radionuclides in those laboratories.

c. Roybal Campus, Building 18: the 2018 FSSR stated 2 rooms were surveyed (5-412 and B703B.3). However,
   - the 2009 DFP stated the building opened August 2005 and in 2009 had 3 active laboratories using H3 and S35;
   - the 2013 DFP stated there were 4 active laboratories using H3 and S35, and 2 inactive laboratories;
   - the 2017 DFP stated there 4 inactive laboratories;
   - the 2019 DFP lists it as decommissioned.

   Based on the submitted information, at least 6 laboratories should have been included in the final Status Survey of Building 18. Explain why all laboratories used for licensed activities were not included in the Final Status Survey.

d. Roybal Campus, Building 23: The 2018 FSSR stated 4 laboratories were surveyed (10-624, 10-654, 10-439 and 10-471). However,
   - the 2013 DFP stated the building opened June 2010, and in 2013 there were 4 active laboratories but did not state what materials were used;
   - the 2017 DFP stated there was 1 active laboratory using a Ni63 sealed source, and 4 inactive laboratories;
   - the 2019 DFP stated there was 1 active laboratory using Ni63 sealed source and 4 laboratories were decommissioned.

   Please confirm if the Ni63 source in use is under your specific license, or if it is possessed under a general license. If it is under a general license, there should be a metal tag attached to the ECD with that information.

   Please be aware that, because licensed materials are still in use in Building 23, the NRC will not release the building for unrestricted use. However, we will evaluate if the final status surveys of those 4 rooms meet the NRC criteria for release for unrestricted use.

e. Chamblee Campus, Building 110: The FSSR stated that only Room 4207C was surveyed at this location. However,
   - the 2009 DFP stated the building opened in September 2005, and in 2009 had 7 laboratories;
   - the 2013 DFP stated that 1 laboratory was used for classified environmental monitoring research using SNM, and 10 laboratories used S35 and I125 for newborn health screenings;
   - the 2017 DFP stated there were 9 active laboratories and 1 inactive laboratory;
   - the 2019 DFP stated there were 9 active laboratories and 1 inactive laboratory.

   Please be aware that, because licensed materials are still in use in building 110, the NRC will not release the building for unrestricted use. The review of the survey of Room 4207C requires additional information in order to determine if it meets the NRC release criteria. Provide information regarding all the radioactive materials actually used in the room, and explain why surveys for SNM were not

performed as required, if SNM was used at least as early as 2013 in that room, according to the decommissioning funding plans submitted since that time.

11. Please note that 10 CFR 30.35(g) requires that you maintain records important to decommissioning. Those records include, in part, a list that is updated every 2 years of all areas designated and formerly designated as restricted areas. This regulation has been in place since 1990. As a type A license of broad scope, you are expected to review and approve facilities where radioactive materials will be used or stored, and perform routine surveys of these facilities, so records of those rooms are important, especially when the building will be decommissioned.

    Confirm that you will review appropriate authorization, survey, receipt and other applicable records to identify all rooms where licensed materials were used or stored in the buildings to be released. Confirm that, when the review is completed, you will provide an updated list of the rooms in each building for which release for unrestricted use is requested for approval; and provide the basis for a determination if additional surveys will be required.

<u>Request for Additional Information for the Decommissioning Funding Plan dated December 30, 2019</u>

1. The following refers to the beginning of “Checklist 3 Decommissioning Funding Plan” on page 3:

    a. This section shows that boxes for Part 30 and Part 70 materials correctly checked, indicating that financial assurance is required to be provided only for the quantities of materials possessed under Parts 30 and 70 on your license. Please confirm you understand that, although the quantities of materials authorized on your license pursuant to Part 40 do not require provision of financial assurance, the facilities where the Part 40 materials (thorium 228, thorium 230, uranium 234 and uranium 236, as well as any use of source material under the general license of 10 CFR 40.22) are used and stored will require final status surveys to be performed that demonstrate they meet NRC criteria prior to any release for unrestricted use.

    b. The boxes for “certification that financial assurance for decommissioning has been provided in the amount of the decommissioning cost estimate” and “include a financial instrument and supporting documentation” were not checked, and this information was not provided. When we complete the review of the 2019 DFP submitted, you may provide new financial assurance documents (the Statement of Intent (SI) and the Certification of Financial Assurance (CFA) in the new amount if lower than specified in the current documents. If the cost estimate is higher than that provided by the current SI, a new SI and CFA will be required. No response to this item is required at this time.

2. The following items refer to Section A.3.1.1 Facility Description, “Description of Facility Buildings”:

a. The second paragraph states that on the Roybal Campus, only Building 23, Room 11-641 is a potentially impacted area, containing two nickel 63 electron capture detectors used in two separate gas chromatographs. It further states that 12 laboratories, formerly used for licensed activities, were decommissioned in August 2018. However, as noted later in this RAI, the number of laboratories for which surveys were submitted is less than the number of laboratories identified in previous DFP cost estimates. All laboratories where materials were used or stored must be included in the final status surveys. This is addressed in the items for the Final Status Survey above.

b. Building 34 on the Roybal Campus includes the Radioactive Waste Room, which is a potentially impacted area. Confirm that this building will remain on your list of locations where radioactive materials are used or stored, and will continue to be included in the DFP as a potentially impacted area.

c. Building 110 on the Chamblee Campus is described as using SNM for classified research, although only 9 laboratories using S35 and I125 are listed as active. Please provide an updated description of this building and the radionuclides currently used in active laboratories, and formerly used in inactive laboratories.

d. The final status survey information is incomplete for Room 4207C in Building 110 on the Chamblee Campus. This is addressed in the items for the Final Status Survey above.

e. The Lawrenceville Campus is stated as containing laboratory facilities that have been decommissioned. We understand from the May 4, 2020, letter that you awarded a contract for a final status survey to be done at this location. The NRC staff reviewed available documentation in NRC records, and found the following:

    i. Amendment 27, issued in May 24, 1984: This is the first amendment that lists the Lawrenceville campus as a location of use. It is not clear if this is the first time materials were used on the campus, because older amendments did not list campuses separately.

    ii. The renewal application dated November 29, 1984: Lists the Lawrenceville campus as a location of use.

    iii. July 6, 2000, telephone conversation record between NRC and CDC: This stated that the CDC has not scheduled follow-up activities for decommissioning of the Lawrenceville facility since the NRC letter dated November 10, 1999, confirming that the licensing action to release Lawrenceville was abandoned because the CDC required more time to gather information.

    iv. Letter dated August 4, 2000 from CDC to NRC: This stated that the historical site assessment of the Lawrenceville facility is expected to

be complete by September 15, 2000, and the final status survey would be completed by November 15, 2000.

v. September 2, 2003 letter from the NRC to CDC: This requested additional information for release of the Lawrenceville facility. This letter refers to a final status survey dated November 11, 2000.

1. There is no record of the November 11, 2000, document in ADAMS or in the remaining hard copy files in the NRC office. The letter does not refer to a Mail Control number, so it appears that this was not part of a licensing action.

2. The September 2, 2003 letter (ML032450439) raises a number of deficiencies. Of current concern are 1) the lack of identification of the licensed materials used at the Lawrenceville campus, and their location(s) of use and storage; and 2) information related to two burial sites at the Lawrenceville facility.

vi. Renewal application May 30, 2012: The Lawrenceville campus was not listed in the renewal application. The NRC determined there were no documents submitted for release of the Lawrenceville facility and required it to remain on the license.

vii. The 2017 DFP: This did not include the Lawrenceville campus; the CDC submitted a letter to the NRC dated June 8, 2017 stating the belief that the NRC released the Lawrenceville campus for unrestricted use. NRC staff could find no documentation of the NRC releasing the Lawrenceville facility, and required it to be included in the DFP.

viii. CDC email dated July 21, 2017: This email had attached documents believed to address the release of the Lawrenceville facility. Attachments are not in ADAMS but were listed on the email as CDC letter August 4, 2000; July 5, 2000 telephone conversation; and September 2, 2003 Final Status Survey of Lawrenceville, Georgia facility. (note: the September 2, 2003 document is the NRC's Request for Additional Information letter). Because the NRC could not find any documentation of responses to the concerns in the September 2, 2003, letter, and no subsequent request for release of the facility with additional survey information, the Lawrenceville facility remained on the 2017 DFP. It continues to need to be considered in the 2019 DFP.

Confirm that you will

- remove the statement from the DFP that refers to the facility being decommissioned;

- revise the cost estimate to include the efforts you will need to make to obtain the information necessary to release the Lawrenceville facility for unrestricted use; and
- submit the final status survey plan to the NRC for review and approval, so that we can identify issues with the plan prior to its implementation.

3. The section "Levels of contamination" states that routine surveys indicate that contamination in radiation laboratories would be several orders of magnitude below the Derived Concentration Guideline Levels (DCGLs) for release for unrestricted use. However, during the past several inspections, inspectors discussed with CDC radiation safety staff that the routine surveys for alpha emitters were not sufficiently sensitive to ensure that facilities would meet the NRC release criteria for alpha emitters. In addition, recall that such surveys are required for all laboratories using source material under the general license in 10 CFR 40.22 and other specifically-licensed source material, regardless if financial assurance is required to be provided.

    a. Specify the criteria you are using for routine surveys for the various radionuclides of uranium and thorium used at your facility, as well as the criteria for the byproduct and SNM materials that are alpha emitters used (or formerly used) in laboratories at your facility.

    b. Specify the DCGLs to which you are comparing your routine survey criteria for the various alpha emitting radionuclides.

    c. Please revise the cost estimate of the DFP, if necessary, to account for performing surveys sufficiently sensitive for the alpha emitters authorized on your license.

4. Section A.3.1.3 "Key Assumptions" provides assumptions made regarding surveys for alpha emitters. Although these assumptions may be acceptable in the cost estimate, they may not be acceptable for the actual alpha emitters used at your facility. Your license authorizes alpha emitters that are byproduct material, source material (uraniums and thoriums) and special nuclear material (U233, U235 and all plutoniums).

    a. Wipe tests for alpha emitters are assumed to be analyzed in a liquid scintillation counter (LSC) with the action level of 42 dpm. Please note that a LSC is not always the best choice for alpha counting, and that the 42 dpm removable contamination exceeds NRC criteria for many alpha-emitting radionuclides such as uranium 238 (screening value for removable contamination is 10 dpm per 100 square centimeters) and thorium 232 (screening value for removable contamination is 0.7 dpm per 100 cm^2). Confirm that you understand that the NRC is does NOT approve the use of 42 dpm removable contamination as a generic release criterion for alpha emitters if the DFP is accepted. Please note that the screening value for plutonium 239, shown as an example at the end of the DFP, is 28 dpm per 100 cm^2 total residual contamination, of which not more than 10% (2.8 dpm/100 cm^2) is removable.

Confirm that you understand that the NRC does NOT approve the use of 42 dpm removable contamination as a generic release criterion for alpha emitters by its inclusion in the DFP. When actual decommissioning will take place, you may submit site-specific DCGLs for review and approval prior to their use.

b. Scanning surveys for alpha emitters are much less sensitive than the static surveys. Static surveys are required to determine if facilities have total residual contamination that meets NRC release criteria. Both scanning and static survey criteria can be radionuclide-specific, depending on the characteristics of the individual radionuclides.

   Confirm that you understand that the scanning surveys as described here are NOT approved as generic criteria for release of facilities for unrestricted use by the NRC by their inclusion in the DFP.

c. The Ludlum Model 2241-2 ratemeter with a Ludlum ZnS alpha scintillator was stated in the Final Status Survey Report as not being suitable for surveys of thorium at levels which meet the NRC release criteria. It also may not be suitable for other alpha-emitters authorized on your license, such as plutonium 239.

   Confirm that you understand that the use of this instrument and detector is not approved as suitable for surveys of all alpha emitters for release of facilities for unrestricted use. There is insufficient information here regarding the alpha emitters used, the calibration of this detector, the sensitivity of this detector, and the use of this detector in scanning mode and/or scaler mode.

5. Table A.3.15 “Equipment/Supply Costs (Excluding Containers) appears to be incorrect. The values for the total cost do not agree with the quantity multiplied by the unit cost. Please provide a corrected table.

At this time, we are not approving the cost estimate or the DFP. We need to resolve the issues related to the facilities decommissioned in 2018 and the items related to the cost estimate. Until those issues are resolved, the current Statement of Intent continues to provide your financial assurance.

We will continue our review upon receipt of this information. Please reply to my attention at:

Betsy Ullrich
Mail Control No. 617658
USNRC, Region I
Division of Nuclear Materials Safety
2100 Renaissance Boulevard
King of Prussia, PA 19406

Or a pdf of the signed letter may be provided by email to:

R1DNMSMail.Resource@nrc.gov
Reference – Betsy Ullrich
Mail Control No. 617658

In order to continue prompt review of your application, we request that you submit your response to this letter within 30 calendar days from the date of this letter.

An electronic version of the NRC's regulations is available on the NRC Web Site at: www.nrc.gov. Additional information regarding use of radioactive materials may be obtained on the NRC Web Site at: http://www.nrc.gov/materials/miau/mat-toolkits.html. This site also provides the link to the toolbox for updated information on the revised regulations for naturally-occurring and accelerator-produced radioactive materials (NARM).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at: http://www.nrc.gov/reading-rm/adams.html. Please be aware that you may request that certain portions of your submittal to NRC be withheld form public disclosure as proprietary information. To do this, you must execute an affidavit as specified in 10 CFR 2.390. You must list all portions that you wish to be held proprietary, along with your reasoning as to why that is appropriate. While it is allowable, please refrain from submitting proprietary information in support of a license unless necessary. Keep in mind that all NRC licenses are considered to be in the public domain, and therefore may be viewed by any member of the public who requests to see them.

If you have any questions regarding this request for additional information, please contact me at (610) 337-5040 or by electronic mail to Elizabeth.Ullrich@nrc.gov.

Thank you for your cooperation.

Sincerely,

Elizabeth Ullrich Digitally signed by Elizabeth Ullrich
Date: 2020.06.18 14:02:54 -04'00'

Betsy Ullrich, Senior Health Physicist
Commercial, Industrial, R&D
and Academic Branch
Division of Nuclear Materials Safety
Region I

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cc: Cynthia Long

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES, CENTERS FOR DISEASE CONTROL & PREVENTION, REQUEST FOR ADDITIONAL INFORMATION, MAIL CONTROL NO. 617658 DATED JUNE 18, 2020

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SUNSI Review Complete: Betsy Ullrich

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