

Aptuit, LLC  
10245 Hickman Mills Drive, Dock 5  
Kansas City, MO 64137

February 20, 2013

**VIA OVERNIGHT, DELIVERY RECEIPT REQUESTED**

Christine A. Lipa, Chief  
Materials Control, ISFSI, and Decommissioning Branch  
Region III - Division of Nuclear Materials Safety  
Nuclear Regulatory Commission  
2443 Warrenville Road Suite 210  
Lisle, Illinois 60532

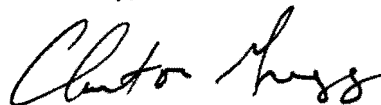
**Re: Follow up regarding RAI to Decommissioning Plan, Aptuit Scientific Operations, LLC; Docket No. 030-09415, License No. 24-15595-01, Mail Control Number 579062**

Dear Ms. Lipa:

Enclosed please find our response to the Request for Additional Information (RAI's) dated February 7, 2013 and the revised Decommissioning Plan (DP). The changes in the text of the DP are marked with yellow highlighting. The RAI's were addressed and the DP was revised to reflect these changes. We request that an expedited review be performed to ensure that all RAI's were adequately addressed so that the Decommissioning Plan can be approved and we may proceed with decommissioning.

Aptuit remains eager to safely and efficiently finish our decommissioning activities in a timely manner. Your help is greatly appreciated.

Sincerely,



Clinton Gregg  
Radiation Safety Officer  
Aptuit Scientific Operations, LLC

RECEIVED FEB 21 2013

Enclosures: RAI response and Revised Aptuit Decommissioning Plan (CD)

cc. Michael LaFranzo, NRC  
Lionel Rodriguez, NRC  
Zachary Peckham, Shaw Environmental  
Rick Greene, Shaw Environmental

**APTUIT RESPONSE TO  
NRC REVIEW OF LICENSE AMENDMENT REQUEST REGARDING  
DECOMMISSIONING PLAN AND REQUEST FOR ADDITIONAL  
INFORMATION – APTIUIT, LLC (MAIL CONTROL NO. 579062)**

**February 20, 2013**

RAI-001: The licensee is requested to provide additional information that describes the location of the waste storage building referred to as “The Hill” in relation to the other Aptuit buildings shown in Figure 1-1. The licensee is also requested to add the location of the waste storage building to Figure 1-1 of the DP.

**The north hill waste storage building (aka the Hill), located on the north side of the campus, is owned by Sanofi-Aventis and leased by Aptuit. Text describing the location has been added to the Executive Summary and the waste storage building has been added to Figure 1-1 of the DP.**

RAI-002: The licensee is requested to provide additional information providing a justification for why it is believed that Na-22 should not be considered a contaminant of concern at the Aptuit facility. The licensee is also requested, should the Na-22 contaminant be a concern at the Aptuit facility, to provide an appropriate level of detail concerning the decontamination procedures, safety precautions, and waste disposal to ensure the safe handling and disposal of the contaminant.

**Sodium-22 (Na-22) was added to the license with Amendment No. 15 issued in January of 1992. The license limit was 20 mCi. This radionuclide was no longer authorized in Amendment No. 17 issued in September 1993. There is no record of use of Na-22 at the facility nor was it identified as a contaminant of concern in any previous site investigations. The short half-life (2.6 years), the time since Na-22 was authorized on the license (19.5 years), combined with a lack of evidence of any use effectively eliminates Na-22 as a contaminant of concern. Sections I (Executive Summary) and II.B (License History) have been revised to address Na-22 and the other short-lived radionuclides that at one time have been authorized on the license but have been eliminated as contaminants of concern.**

RAI-003: The licensee is requested to provide additional information associated with the physical location of the “3 room suite” as described in the comments section for the line item of Amendment No. 8 of Table 1-1.

**The “3 room suite” consisting of Rooms 119, 120, and 122 was mentioned in the application for Amendment No. 8. Aptuit has determined that these rooms were in the B Building. This area has been renovated as shown in the attached figure (Attachment 1, Figure 1) with an overlay of the existing area. Room 119 mentioned in the Amendment No. 8 application is included as part of the current B2-119 decommissioning. Rooms 120 and 122 have been renovated into the current rooms**

**B2-121 and B2-122 and hallway B2-134. Scoping surveys have been performed in B2-121, B2-122, and B2-134 to confirm that these areas are not impacted. Scoping surveys consisted of scanning and biased direct measurements and wipes. Results of scoping surveys verify that these areas are not impacted. All results were below Aptuit's acceptable surface contamination levels of 5,000 dpm/100 cm<sup>2</sup> total activity and 1,000 dpm/100 cm<sup>2</sup> removable activity. Figure 2-7 and Appendix D of the DP, Historical Use Areas, has been revised to address these rooms.**

RAI-004: The licensee is requested to provide additional information that clarifies whether the water that was disposed of through the sanitary sewer during the spill event referenced above was contaminated with H-3 and C-14. The licensee is also requested to provide additional information on whether this spill event had an impact on the on-site pH treatment building and/or the city sewage system. If these systems were impacted, the information should describe what the licensee's plans are to demonstrate these systems will be suitable for unrestricted use before license termination.

**The spill that occurred in B2-166 on November 2, 2008 resulted in approximately 110 gallons of water being discharged to the sanitary sewer. Analytical results indicated that the water contained approximately 77 microcuries of C-14 with H-3 at background levels. The average water discharge from the site at the time was 12,100 gallons per day. This results in an average concentration on the day of the incident of 1.7E-6  $\mu$ Ci/ml (3.6 dpm/ml) or a monthly average discharge of 5.6E-8  $\mu$ Ci/ml (0.1 dpm/ml). At these concentration there is no reason to suspect any impacts to the on-site pH treatment building or to any systems downstream of that facility from the spill. However, as stated in the DP, an investigation of the drains will be conducted in accordance with Aptuit WI-007. For reference the monthly average sewer discharge limit for C-14 is 3E-4  $\mu$ Ci/ml with an annual limit of less than 1 curie (10 CFR 20.2003 and Appendix B to Part 20).**

RAI-005: The licensee is requested to define under what conditions the ALARA principle, as required by Title 10 Code of Federal Regulations 20.1101(b), has been met prior to leaving radioactive material in place.

**As stated in the DP, for ALARA considerations the selected DCGL is 10% of the NRC screening value for C-14. In addition, areas that exceed the Investigation Levels (Section XIV.D of the DP) will be investigated and remediated if possible. Also, as described in Section XIV.A of the DP, areas that exceed the DCGL will be remediated to below the DCGL. Section VIII.A of the DP has been revised to read "Survey results will be used to determine if remedial actions are needed to meet release criteria (i.e. activity below DCGL and reduced to ALARA). Surfaces that are found to meet the radiological release criteria (i.e. activity below DCGL and reduced to ALARA) will be left in place."**

RAI-006 The licensee is requested to place into Figure 9-1 the position of Site Supervisor as it relates to the management structure.

**The Site Supervisor has been added to Figure 9-1 as requested.**

RAI-007: The licensee is requested to further define and/or provide examples of a “non-radiological program.”

**Examples of non-radiological programs provided for D&D tasks include lockout/tagout, hazard communication, fall protection, etc. The text in Section IX.A has been revised to include these examples.**

RAI-008: The licensee is requested to modify Figure 9-1 to reflect that the Project QA manager reports directly to a Corporate QA manager (Aptuit) and indirectly to the project manager.

**Figure 9-1 has been revised as requested.**

RAI-009: The licensee is requested to provide additional detail (e.g. in checklist form) on the issues or items that will be considered when developing an RWP.

**The attached RWP Evaluation Form (Attachment 2) provides a list of the items or issues that are considered when developing an RWP.**

RAI-010: The licensee is requested to provide additional information on the experience of the RSO or his designee to be the sole reviewer and approver of an RWP. In addition, the licensee should consider whether other individuals or groups within the management organization, such as the Radiation Oversight Committee, could be utilized regarding the review and approval of an RWP.

**RWPs are prepared by Project CHP and are reviewed by both the Site Supervisor (also an HP) and the RSO. The RSO has experience and knowledge of the types of activities being performed and the levels and radionuclides involved. The RSO has experience in decontamination and decommissioning at a facility performing similar operations (former EaglePicher Pharmaceutical Services, LLC). In addition the RSO has responsibility for all activities performed under the license. Preparation of the RWPs by the Project CHP with subsequent review by two HPs, including the RSO, is sufficient review.**

RAI-011: The licensee is requested to provide NRC documentation that the RSO has the appropriate education and experience commensurate with decommissioning activities.

**The Aptuit RSO has 14 years experience as an RSO in radiosynthesis labs. This experience includes establishing and maintaining radiological controls for facilities authorized to handle up to 5,000 Ci of H-3 and 500 Ci of C-14. The RSO's experience includes licensing, maintaining compliance with license and regulatory requirements, conducting radiation safety training, shipping radioactive materials, managing radioactive waste disposal, and interacting with regulatory agencies. His duties include performing radiological surveys, exposure tracking, and maintaining exposures ALARA. The RSO's experience has included emergency response and overseeing decontamination efforts.**

**The RSO received the following applicable training in radiological controls and health physics in the Navy:**

**Nuclear Power School and Nuclear Prototype Training Unit**

**Machinist's Mate Nuclear Field "A" School**

**Engineering Laboratory Technician School**

**Operational Water Chemistry and Radiological Controls School**

**The RSO's training and experience are appropriate for providing oversight for the radionuclides, activity levels, and tasks that will be encountered during decommissioning activities.**

**RAI-012: The licensee is requested to further describe the statement regarding the use of financial assurance for disposal. E.g.: Does the license plan on using resources from its financial assurance plan submitted to the NRC or is this an internal resource not subject to NRC regulations?**

**That statement referenced above was simply meant to illustrate that Aptuit is aware of the potential, though not expected, to generate mixed waste. It was not meant to imply that resources from the financial assurance plan would be used. Any disposal costs associated with mixed wastes will come from internal Aptuit resources not subject to NRC regulations.**

**RAI-013: The licensee is requested to provide additional information on the definition of "sizable quantity." Specifically, the licensee should provide a number or range of values with the appropriate units which would further define "sizable quantity."**

**If mixed waste is generated it is anticipated to be less than 500 lbs. Section XII.C of the DP has been revised to say that any mixed waste generated is anticipated to be less than 500 lbs.**

**RAI-014: The licensee is requested to provide the name(s) of the waste disposal contractor(s) that will be used to disposal of any solid, liquid or mixed waste from any decommissioning activities.**

**Aptuit plans on using Bionomics, Inc for disposal of any mixed waste generated from decommissioning activities. However, Aptuit reserves the right to contract with another appropriately licensed waste disposal contractor depending on a number of factors including cost, schedule, services provided, etc. Section XII.C of the DP has been revised to as stated above. The contact information for Bionomics is:**

**Bionomics, Inc.  
P.O. Box 817  
Kingston, TN 37763  
Phone (865) 220-8501  
Fax (865) 220-8532**

**BionomicsJohn@comcast.net**

RAI-015: The licensee is requested to provide further clarification, either in the statements above or Figure 9-1, regarding the authority of the QA organization to bring matters directly to the attention of the Aptuit RSO or Aptuit Decommissioning Project Manager.

**Figure 9-1 has been revised to show that the QA organization reports directly to a Corporate QA manager (Aptuit) and indirectly to the project manager. Section XIII.A of the DP has been revised to say "Due to the size and scope of the project the QA manager may also serve as the project and site QC manager."**

RAI-016: The licensee is requested to provide a specific frequency (e.g.: daily, every 8 hours of work, etc...) regarding follow-up inspections and surveillance while work is in progress.

**Follow-up inspections and surveillances of work in progress will be conducted weekly during field activities.**

RAI-017: The licensee is requested to specifically state that the licensee will develop, implement and maintain procedures associated with any decommissioning activities and which are approved by licensee management.

**Should additional procedures associated with decommissioning activities be needed, Aptuit will develop, implement and maintain procedures associated with those decommissioning activities. These procedures will be approved by licensee management. Section XIII. B of the DP has been revised to read: Should additional procedures associated with decommissioning activities be needed, Aptuit will develop, implement and maintain procedures associated with those decommissioning activities. These procedures will be approved by Aptuit management.**

RAI-018: The licensee is requested to specifically define “periodic” as a timeframe.

**Management assessment of project activities will occur monthly during active field work.**

RAI-019: The licensee is requested to make a definitive statement on how often reviews are performed of the project. The licensee shall consider the amount of time to complete the project in its determination.

**Project status reviews will be conducted monthly.**

RAI-020: The licensee is requested to specifically commit to who shall be attending the status review meeting. The licensee shall consider the minimum type, number and authority of staff and management necessary to successfully conclude the status review meeting.

**The project status review meeting shall be attended by the Project Manager, the QA Manager, the RSO, and the Site Supervisor.**

RAI-021: The licensee is requested to provide NRC information on why a formal training program is not required.

**In this context, a formal training program refers to a training program with a formal curriculum, established duration, and competency testing based on established objectives. The training required for this project includes:**

- **Site Specific Awareness Indoctrination (radiation safety requirements of the project, license, and the Radiation Safety Program Manual)**
- **Radiation Worker Training**
- **40 Hour OSHA and subsequent 8 Hour HAZWOPER Training**

**Since D&D workers will receive site specific training and have current radiation worker and OSHA HAZWOPER training, it was determined that it would not be necessary to develop another formal training program for decommissioning activities.**

RAI-022: The licensee is requested to further define the frequency of each self assessment.

**Self-assessments will be conducted weekly.**



RAI-023: The licensee is requested to define the roles, responsibilities, capabilities and training and/or experience requirements for a subject matter expert.

**A SME is a professional who has acquired knowledge and skills through study and practice in a particular discipline. A SME will have at least 10 years experience in the subject area or possess professional certification in the applicable field (e.g. CHP for health physics related reviews, PE for engineering drawings, etc). SME's will prepare or review and approve procedures and review engineering drawings prepared for the project.**

RAI-024: The licensee is requested to further define periodic in the form of a timeframe. (e.g.: days, weeks, etc...)

**QA assessments of records and document control will be performed monthly.**

RAI-025: The licensee is requested to provide the D&D Subcontractor's procedures for NRC review.

**The following D&D Subcontractors are submitted as requested:**

- **Procedure No: EIP-Q-005 Revision No.: 2, Inspection**
- **Procedure No: EIP-Q-006 Revision No.: 2, Surveillance**
- **Procedure No: EIG-Q-009 Revision No.: 2, Quality Audits**

RAI-026: The licensee is requested to provide specific timeframes associated with the frequency of assessments.

**Independent assessments (inspections and surveillances) of project activities will be conducted monthly.**

RAI027: The licensee is requested to provide the definition of "Periodically." Example: Daily, weekly, within 8 hours of when work is being performed, etc...

**The Site Supervisor will observe D&D tasks weekly when D&D tasks are active.**

RAI-028: The licensee is requested to provide any additional information or clarification which would address the apparently lack of information to be included in the above statement.

**There was a formatting error in the procedure. The bullets following the statement "Management of the sanitary sink trap RDW will include the following:" are the steps to be followed in managing RDW**

**wastes from the sink traps. Those steps should have been indented. Section 6.1.2 of Work Instruction WI-006 has been revised to show the proper indenting.**

**RAI-029: The licensee is requested to provide the NRC the Aptuit RSPM for review.**

**The Aptuit RSPM was submitted to the NRC with the license amendment request dated April 1, 2008. It is attached for your review.**