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July 24, 2019

Dr. James R. Cassata  
Nuclear Regulatory Commission (NRC), Region 1  
Division of Nuclear Materials Safety  
2100 Renaissance Blvd., Suite 100  
King of Prussia, PA, 19406

Mail Control Number: 611138  
Docket Number: 030-37850  
License Number: 20-31340-01  
License Reviewer: James R. Cassata

**Subject: Request for Additional Information, License 20-31340-01 Renewal, Mail Control Number 611138.**

Dear Dr. Cassata:

Attached, please find the additional information requested as part of the review for renewal of NRC license 20-31340-01.

The requests are listed in order followed by the response in bold.

1. Your June 12, 2019, letter submitted information related to Section 8.5, "Radioactive Material" and 8.6 "Purpose(s) for Which Licensed Material Will Be Used," of NUREG-1556, "Consolidated Guidance About Materials Licenses," Volume 18, "Program-Specific Guidance About Service Provider Licenses," Revision 1 (NUREG 1556, Vol.18, Rev.1) in the form of Appendix B information.
  - a. The Appendix B information, Table B-1 Items 5&6, "Unsealed Radioactive Materials to Be Possessed and Proposed Uses," has greatly reduced quantities requested, compared to Item 5 of your application dated November 5, 2018. Confirm that the reduction in quantities is intended.

**Response: Yes. It is our intention to reduce our possession limits to reduce our overall risk profile and to recognize that our possession limit has not been approached in the past 10 years.**

- b. The Table B-1 lists the use code E (calibration using low-activity sources) and L (storage of radioactive material for other entities). The additional activities you specified as decontamination of areas [application dated November 5], facilities,



equipment, or containers [letter dated June 12] and any activity related to site characterization; both of these would be use code T (decontamination and decommissioning services). The activities of solidification and treatment of wastes would be used code U (waste management services); packaging for transport, and transport in packages or containers approved for use under the provision of 10 CFR Part 71 would be codes U and/or V (other high-risk activities). Confirm that you understand that the site remediation, decontamination and decommissioning, waste treatment, and packaging and transportation pursuant to Part 71, are all considered high-risk activities by NUREG-1556, Vol. 18, Rev.1.

**Response: Decommissioning activities are limited to characterization of specified locations, excavation of soils, performance of radiological surveys, collection of samples, and similar activities that support a MARSSIM-like approach to characterization and remediation. While APTIM has undertaken facility decommissioning as part of a broader team, those tasks have been performed under the provisions of the license issued to that facility or entity. APTIM does not classify or transport waste or handle or transport Type A quantities of radioactive materials. Therefore, it is my belief that the services that we provide are within the definition of Low Risk as defined in NUREG 1556, Volume 18, revision 1.**

c. As a result of a review of all licenses and program codes over the past 2 years, the NRC identified that activities under program codes 03219 may require that an environmental assessment be performed. Confirm that you understand that the issuance of your license renewal may be delayed until a determination is made regarding the need for an environmental assessment for these activities.

**Response: APTIM surveys and decontaminates, as needed, tools and equipment used in the characterization and removal of low concentrations of radioactive material as it may exist in environment. Decontamination of client structures that are to be preserved or demolished is also provided. These services are provided at temporary job sites that are owned by client organizations. APTIM does not engage in the actions that typically require an environmental assessment as listed in 10CFR50.60.**

d. At this time, your license has the primary program code 03234 "waste disposal service, processing and/or packaging" in fee category 4.6. It is unclear if you plan to be handling only wastes generated by the remediation activities you were performing for the customer. If that is the intention then please state, "We will limit waste handling activities to those wastes generate by remediation and decommissioning services we provide. We will NOT take possession of waste generated by the customer as would a commercial waste service provider, or handle wastes we did not generate." Alternately, please describe the commercial waste service(s) you are providing. In particular, NUREG-1556, Volume 18, Rev 1 describes commercial waste management to include activities such as incineration, compaction, solidification, vitrification, packaging, repackaging, or transportation of waste for customers. You specifically requested to be authorized to perform solidification and treatment of wastes. Please describe the activities and provide procedures for each type of commercial waste management service you will perform at customer facilities. Also, note that we are still in The process of determining if an environmental assessment will be required pursuant to 10 CFR Part 51 for commercial waste services.

**Response: APTIM does not provide waste services and we believe that program code was added in error at some time in the past. We request that program code 03234 be removed.**

e. You stated that you will take possession of customers' material discovered during the characterization and remediation activities at temporary job sites. Also, in Item 5.3, you stated that you would maintain quantities below those which require the provision of financial assurance. Please note that the following license conditions are standard on licenses for site remediation services:

- *The licensee does not take possession of the radioactive materials and/or sealed sources while at the customer's facility "except for analytical samples".*
- *Except for calibration sources, reference standards, and radioactively contaminated equipment owned by the licensee, receipt, storage, and use incidental to any activity of licensed material at each temporary job site shall be limited to material originating from each site. This material must either be transferred to an authorized recipient or remain at the site after licensee activities are completed.*

These conditions limit the site remediation licenses to the use of the radioactive materials for activities authorized on the license at temporary job sites only, and do not authorize possession of the material other than calibration and check sources, or analytical samples. Therefore you will not be required to provide financial assurance or emergency plans. Possession of the material remains under the financial assurance and other regulatory requirements of the site at which you are working. No response to this item is required.

**Response: APTIM understands this statement. Radioactive material discovered and controlled during remediation activities is transferred to a waste broker for proper disposal, or, if items are of historic value, transferred to the appropriate licensee or authority. Please note that transfers to waste brokers for characterization and disposal take place on a schedule specified by the client and is based on separate contractual conditions.**

f. The table of instrument check sources, included under your Table B-1, did not specify the manufacturer and model number for each source, or the Sealed Source and Device (SSD) registration number. Section 8.5.1 of NUREG-1556, Vol. 18, Rev. 1, states that you should identify the manufacturer or distributor and model number of each type of sealed source and device requested, or provide the Sealed Source and Device (SSD) registration certificate number. It is possible that some of the sources you use are not required to be registered, in accordance with 10 CFR 32.210. Please provide the manufacturer and model number of the sources you expect to possess and use at temporary job sites.

**Response: APTIM believes that no seal sources, registered sources, or seal or registered devices are in our possession. After discussion with NRC staff, we further understand that the determination that a source is an exempt quantity using typically available references may be in error. Further review of our source inventory reinforces our belief that we possess no sealed sources. Attached is a list of source certifications.**

g. June 10 letter states that you will not possess sealed sources, but if they are discovered during work at a temporary job site, they will be secured and included on the inventory. Confirm that, if such sealed sources exceed the quantities of



material authorized in "any" form, you will amend your license if work with the sources is required.

**Response: We confirm that we would seek an immediate amendment to our possession limits should discovery and control of sources or devices present a challenge to those limits.**

2. You stated in response to Item 5.5 that an emergency plan is not required due to low-risk activities. As stated above, several of the activities you requested are considered high risk activities in NUREG-1556, Vol. 18, Rev. 1. The procedures that you submitted with the June 12 letter do not meet the requirements of 10 CFR 30.32(i). Confirm that you will comply with the requirements of Condition 18 of Amendment 5 of your license prior to beginning work at temporary job sites with such quantities.

**Response: APTIM believes an emergency plan is not required due to the limits of our requested possession of radioactive materials and the removal of the high risk program code.**

3. Item 7.1 of your application does not include all the information requested in NUREG 1556, Volume 18, Revision 1, Section 7, "Individuals Responsible for Radiation Safety Program and Their Training and Experience." In accordance with Section 8.7.1, demonstrate that the RSO has sufficient independence and direct communication with responsible management officials by providing a copy of an organizational chart by position and demonstrating day-to-day oversight of the radiation safety activities; and
4. Item 7.2 of your letter dated June 12 contains a different list of authorized users than was submitted in the November 5 renewal application. The following persons are listed in both documents, and no additional information is needed: Mark Somerville, Thomas Battaglia, Richard Green and Raymond Schul.
  - a. Confirm if Christine Donahue and James Langsted, currently listed on your license and the November 18 renewal application, should continue to be listed. They were not listed in the June 12 letter.
  - b. Confirm that Amy Mangal is requested to be an authorized user as she was listed in the June 12 letter and documentation of her training and qualifications were provided.
  - c. Confirm if Lisa Coffey is requested to be an authorized user as she was listed in the June 12 letter. If so, provide documentation of her training and experience to use, or supervise the use of, licensed material.

**Response: APTIM confirms that Christine Donahue and James Langsted should be removed from the list of authorized users. Qualification documentation is attached for Amy Mangal and Lisa Coffey.**

5. In accordance with Section 8.7.2 of NUREG-1556, Vol. 1, Rev.1, confirm that "Before using licensed material, authorized users will receive the training described in Appendix D in NUREG-1556, Vol. 18, Rev. 1."

**Response: APTIM confirms this training will be received.**

6. Section 8.10.1, "Operating and Emergency Procedures," states that applicants who perform high-risk activities should submit their operating and emergency procedures for those activities. In addition, Section 8.9 "Facilities and Equipment," states that equipment used at temporary job sites should be discussed in Section 8.10.1. You



should review the discussion in Section 8.10.1 to ensure that your operating and emergency procedures address applicable guidance. In particular,

- a. Please provide more specific information regarding the types of activities you expect to perform related to site characterization, decontamination and decommissioning of facilities. In particular,
  - 1) specify if activities will be limited to surveys and routine cleaning methods of indoor facilities and equipment, or if you expect to use aggressive methods that could include grinding, cutting, scabbling or other activities that could generate airborne radioactivity; chemical methods that could result in generation of mixed wastes; or other methods that could require use of specialized protective clothing or equipment such as respirators. Provide procedures for such activities and a list of instrumentation and other equipment to be used.

**Response: Site characterization activities typically follow a MARSSIM-like process. That include gamma walk over surveys, static surveys, surveys for alpha emitting radionuclides when appropriate, biased sample collection, systematic sample collection, sample packaging, data collection, time and geospatial location, and related activities. Decontamination is low risk, if performed, due to activity levels typically near background levels. No chemical decontamination is attempted, and no mixed wastes are generated. Typical work activities favor disposal of radiologically contaminated material that would otherwise require aggressive decontamination.**

- 2) Specify if the activities you expect to perform in outdoor areas will be limited to surveys and limited soil sampling in the top 15 centimeters, or if you expect to perform activities such as core sampling, soil removal, sampling and remediation below 15 centimeters, ground water and surface water sampling, or other similar activities that may require additional radiation or other safety precautions. Provide procedures for such activities and a list of equipment you expect to use.

**Response: Outdoor activities performed include core drilling, soil excavation, trenching, and other intrusive actions designed to profile potential soil contamination at depths beyond the assessed detection capability of deployed instrumentation. Commercially available excavators, trenchers, and drilling rigs are utilized as needed.**

- b. Describe the specific types of commercial waste treatment(s) and services you plan to provide in addition to solidification and packaging of customer's waste. In particular, NUREG-1556, Vol. 18, Rev. 1 describes commercial waste management to include activities such as incineration, compaction, solidification, vitrification, packaging, repackaging, or transportation of waste for customers. Provide a list of the equipment you expect to use. Please provide procedures for each type of commercial waste management service you will perform at customer facilities. Note that we are still in the process of determining if an environmental assessment will be required pursuant to 10 CFR Part 51 for commercial waste services. If you are not providing commercial waste treatment, no response is required.

**Response: No commercial waste services are provided.**

- c. Explain the activities you describe as transport in containers approved under the



provision of 10 CFR Part 71, and if this is related to, or separate from, the activities of decommissioning services or commercial waste management services. Provide procedures for such activities. In addition, please confirm that you understand that you must register as a user of a Type B package and obtain approval of your QA program for the Type B package from the NRC prior to making shipments.

**Response: APTIM does not provide such transportation services. APTIM does not handle, prepare, or utilize Type B containers.**

7. In accordance with Section 8.10.3, provide a description of the instrumentation that will be used to perform required radiological surveys.

**Response: A basis document is attached to this letter.**

8. Acceptable surface contamination limits stated in Regulatory Guide 1.86 "Termination of Operating Licenses for Nuclear Reactors" (RG 1.86) may not for meet the unrestricted release criteria of 25 mrem in a year stated in 10 CFR 20.1402, "Radiological criteria for unrestricted use" for certain radionuclides (in particular, alpha emitters). Please note that there are several acceptable methods to determine unrestricted release criteria for buildings and other locations, which are described in NUREG-1757, "Consolidated Decommissioning Guidance." Acceptable surface contamination Levels listed in RG 1.86 may be used for release of equipment and material from licensed material facilities during operational activities prior to license termination. (63 FR 64132; November 18, 1998). Confirm your understanding that contamination limits listed in RG 1.86 are to be used for individual item release and not for release of facilities.

**Response: APTIM confirms understanding of the appropriate uses of values developed and tabled in RG 1.86.**

9. The following documents were submitted with the June 17 letter as part of your license renewal:
  - AMS-710-07-PR-04000: RADIATION SAFETY PROGRAM (no revision number or approval date)
  - AMS-710-07-WI-04014: RADIOLOGICAL EMERGENCY RESPONSE (no revision number or approval date)
  - SPL-SOP-8.10 RADIATION PROTECTION PROGRAM
  - SPL-SOP-8.10.2: RADIATION MONITORING INSTRUMENTATION
  - SPL-SOP-8.10.6: SAFE HANDLING OF RADIOACTIVE MATERIALS AND EMERGENCY PROCEDURES

Please explain why some document to not contain revision numbers or approval dates.

**Response: All documents are being migrated from the former CB&I document management system to APTIM. These documents resided in an interim format until the final design and format of the final APTIM Management System. APTIM is compiling the final, issued version of procedures for submittal to NRC.**

10. In addition to the above documents, please provide your procedures for the following activities: control of radiological work; radiation work permits; internal and external exposure control and monitoring, and evaluation in emergency/events; if respiratory



protection is to be used, either the applicable procedure or confirm that you will meet the requirement of 10 CFR 20, Subpart H, "Respiratory Protection and Controls to Restrict Internal Exposure in a Restricted Area"; performing radiation level and contamination surveys; collection of water, soil and air samples; and control of radioactive waste.

**Response: Requested procedures are attached.**

11. The procedures you submitted with your June 17 letter contain references to NUREG-1556, Volume 18, Revision 0, dated November 2000. Revision 1 was published in August 2017. Confirm that you will review the newer document, and that future revisions of your procedures will refer to the applicable sections of NUREG-1556, Vol. 18, Rev. 1.

**Response: APTIM confirms that revision 1 to NUREG-1556, Volume 18 is the operative version in use.**

12. Your response to Item 10.9 of the June 12 letter stated that you would implement procedures for conducting routine maintenance on devices. Section 8.10.9 in NUREG-1556, Vol. 18, Rev. 1 is intended for service providers who perform commercial maintenance activities for devices containing radioactive materials such as self-shielded irradiators, instrument calibrators, fixed gauges and portable gauges. Confirm if you are requesting authorization to perform maintenance of such devices as a commercial activity under this license; or describe other devices containing licensed material for which you will provide such services.

**Response: We are not requesting such authorization. We do not perform maintenance on any such device listed above.**

13. Your license currently includes the following license conditions which are specific to decontamination and decommissioning service providers. These conditions will be included on the renewal of your license. Confirm that you will continue to meet these requirements.

- *This license does not authorize the use of licensed material at temporary job sites for uses already specifically authorized by a customer's license. If a customer also holds a license issued by the U.S. Nuclear Regulatory Commission or an Agreement State, the licensee shall establish a written agreement between the licensee and the customer specifying which licensee activities shall be performed under the customer's license and supervision, and which licensee activities shall be performed under the licensee's supervision pursuant to this license. The agreement shall include a commitment by the licensee and the customer to ensure safety, and any commitments by the licensee to help the customer clean up the temporary job site if there is an accident. A copy of this agreement shall be included in the notification required by license condition discussed in paragraph 11 b following this paragraph.*
- *The licensee shall notify the U.S. Nuclear Regulatory Commission in accordance with Appendix D of 10 CFR Part 20, in writing at least 14 days before initiating activities under this license at a temporary job site, excluding routine packaging or repackaging for purposes of transporting and not requiring a job or site specific*



*work package, and characterization and/or final surveys where radioactive materials and/or radiation are not likely to be detected. This notification shall include: (1) The estimated type, quantity, and physical/chemical forms of licensed material to be used, (2) The specific site location, (3) A description of planned activities including waste management and disposition, (4) The estimated start date and completion date for the job, and (5) The name and title of a point of contact for the job, including information on how to contact the individual.*

- Within 30 days of completing activities at each job site location, the licensee shall notify the U.S. Nuclear Regulatory Commission in accordance with Appendix D of 10 CFR Part 20, in writing, of the temporary job site status and the disposition of any licensed material used.*
- The licensee shall maintain records of information important to decommissioning for each temporary job site pursuant to 10 CFR [30.35(g), 40.36(f), and 70.25(g)J. The records shall be made available to the customer upon request. At the completion of activities at a temporary job site, the licensee shall transfer these records to the customer for retention.*
- If approved by a Radiation Safety Officer specifically identified in this license, the licensee may take reasonable action in an emergency that departs from conditions in this license when the action is immediately needed to protect public health and safety and no action consistent with all license conditions that can provide adequate or equivalent protection is immediately apparent. The licensee shall notify the U.S. Nuclear Regulatory Commission Headquarters Operations Center at 301-816-5100 and the U.S. Nuclear Regulatory Commission Regional contact before, if practicable, and in any case immediately after taking such emergency action using the reporting procedure specified in Appendix D of 10 CFR Part 20.*

**Response: APTIM confirms that we will continue to meet these license requirements.**

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark O. Somerville'.

Mark O. Somerville

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APTIM

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