



ALPHA Q, INC.

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August 19, 2005

Todd J. Jackson, CHP
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

MS 16
Q-6

Docket No. 04008940
Control No. 136636

STB-1504

Dear Mr. Jackson,

I am writing in response to your letter dated July 21, 2005 regarding the decommissioning of our facility. I would like to respond to each of the comments in your letter in order.

1. Release Criteria

We understand that you are proposing a lower screening level than the one proposed by us in our Radiological Decommissioning Report. You had mentioned an acceptable screening level of 6.03 dpm/100 cm² for Th-232 in equilibrium. Therefore, the actual total limit (for Th-232 + daughters) would be around 60 dpm/100 cm² (or 24 dpm/100 cm² beta). We believe that this screening value is unnecessarily low.

Alpha Q was licensed to possess thorium alloyed with magnesium in the form of aircraft components. These components were composed of less than 4% of thorium, by weight. Our licensed operations involved the machining of these components which generated metal turnings and filings as waste. The licensed material was not in the form of powder or liquid and therefore was unlikely to be absorbed or adsorbed by floors and/or walls of the facility.

Since the Th-232 limits you referenced are so low based upon potential inhalation and ingestion exposure pathways, and since the form of licensed material that we were authorized to possess (metal, composed of <4% of radioactive material) would minimize the chance of significant dose through these pathways, we believe that the screening values that you have referenced are too restrictive. To attempt to meet such low screening levels would involve significant time and resources and we do not believe that this would be justified based upon the true dose risk involved.

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NUCLEAR MATERIALS 002



We would like to propose using the screening value for Th-232 of 600 dpm/100cm², as is outlined in Table 1 of ANSI/HPS N13.12-1999, "Surface and Volume Radioactivity Standards for Clearance." While we understand that this screening value was not developed specifically for use as criteria for facility release, we believe that this value would be more applicable to the potential dose risk involved with the release of our facility. We also believe that this established screening level would still ensure that the requirements of Subpart E of 10 CFR 20 are met.

2. Direct Measurements

Quantitative measurements were not provided in the Radiological Decommissioning Report because all areas scanned were found to be below the minimum detectable activity. However, we understand that the scanning techniques employed previously do not meet the newly proposed screening criteria. Therefore, we propose obtaining an additional 41 fixed measurements throughout the Affected Areas of the facility to show compliance with the 600 dpm/100 cm² level. We intend to grid the facility (including waste storage areas) into approximately 24 ft x 24 ft grids, with a fixed reading being obtained from each grid.

We believe that the 696 wipe samples already obtained from the facility are adequate to show compliance with the newly proposed screening level. The liquid scintillation counter on which these samples were counted is capable of detecting both alpha and beta particles and no significant activity was detected on any wipe sample.

We also believe that the dose-rate survey already performed at the facility is adequate.

3. Calibration Efficiency

The instrument that will be used to perform the direct measurements outlined in Section 2 above is currently being calibrated specifically for Th-232 (beta emissions).

We do not plan on moving ahead with any further decommissioning efforts until our proposed actions are deemed acceptable by the NRC. If you have any technical questions or comments regarding these proposed actions, please contact our consultant, Mr. David Durkee, at (860) 887-1538.

We look forward to working with you in order to provide the NRC with the information necessary to allow for the release of our facility for unrestricted use.

Sincerely,



Ronald Bonito
Vice President/General Manager