



DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD
FORT BELVOIR, VIRGINIA 22060-6223

MAY 19 2009

IN REPLY
REFER TO DNSC-ME

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U.S. Nuclear Regulatory Commission
Region I, Nuclear Materials Safety Branch
Division of Nuclear Materials Safety
ATTN: Ms. Betsy Ullrich
475 Allendale Road
King of Prussia, PA 19406-1415

Re: License STC-133

04000341

Subject: Response to U.S. Nuclear Regulatory Commission Region I Letter of December 11, 2008: *Defense Logistics Agency, Request for Additional Information Concerning Application for Amendment to License, Control No. 138458*

Dear Ms. Ullrich:

The Defense National Stockpile Center (DNSC) has enclosed for the NRC's consideration, several discussion points to address the NRC's request for additional information (RAI) that was contained in the subject correspondence. Specifically, the NRC requested that the DNSC provide additional information regarding potential dose contributions to the public from an area of land contiguous to the current-day Curtis Bay Depot, prior to the NRC's further consideration of DNSC's request to remove the Curtis Bay Depot from License STC-133. This land area, referred to as a partial site release (PSR), was released by the NRC for unrestricted use in 1997.

The enclosure provides a brief historical summary of the PSR and the available data and regulatory documentation to address this RAI. We would greatly appreciate NRC completing the review of the final status survey report we submitted on January 11, 2008, communicating acceptance of this response, and providing concurrence that the site may be released from License STC-133.

Should you have any questions regarding this letter, please contact me. You may also call Mr. Tim Vitkus, CHP, of the Oak Ridge Institute for Science and Education (ORISE) at (865) 576-5073.

Sincerely,

Michael J. Pecullan
Radiation Safety Officer

Attachment



**RESPONSE TO U.S. NUCLEAR REGULATORY COMMISSION REGION I
LETTER OF DECEMBER 11, 2008:
DEFENSE LOGISTICS AGENCY,
REQUEST FOR ADDITIONAL INFORMATION CONCERNING
APPLICATION FOR AMENDMENT TO LICENSE, CONTROL NO. 138458**

Introduction

The Curtis Bay Depot (CBD) was established to store strategic materials. The General Services Administration originally managed the facility until responsibility was transferred to the Defense Logistics Agency, Defense National Stockpile Center (DNSC) in 1988. In the late 1970s and early 1980s an 87 acre portion (EP) on the west side of the CBD property was excecised and transferred, to Anne Arundel County. The 87 acre EP incorporated a 30-acre parcel of land that at one time included a number of storage warehouses—the L, M, N, and O-Line warehouses—nine of which had a history of radioactive material storage. This 30 acre area is referred to as the partial site release (PSR). Prior to the development of the 87 acre EP for a County detention center and recreation park, a radiological survey was performed in the 30 acre PSR on behalf of the NRC in 1992 and residual thorium contamination was identified on warehouse surfaces and within the localized soils of the warehouse perimeters. This 30 acre PSR was then added to the NRC's Site Decommissioning Management Plan (SDMP). Subsequent to this survey, NRC and Maryland Department of the Environment (MdDE) staff performed a survey of the remaining 57 acres of the EP property adjacent to the SDMP site to determine whether this portion of the former DNSC facility was suitable for unrestricted use. In December 1994, NRC staff informed Anne Arundel County that the property adjacent to the SDMP site was suitable for unrestricted use.

In 1995 the DNSC completed remediation and demolition of abandoned warehouses and soil in the PSR, followed by a final status survey report. The soils were remediated to less than the thorium cleanup criteria of 10 pCi/g as required by the SDMP. The NRC and Oak Ridge Institute for Science and Education completed closeout inspections and a confirmatory survey and of the land area in 1996. NRC removed the site from the SDMP in 1997.

RAI Response

The remediation and final status survey of the remaining CBD was completed in 2007. These actions were performed to demonstrate compliance with **10 CFR 20.1402: Radiological criteria for unrestricted use** as follows:

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent to an average member of the critical group that does not exceed 25 mrem (0.25 millisieverts) per year, including that from groundwater sources of drinking

water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.”

A site-specific derived concentration guideline level (DCGL) was developed for above background residual Th-232 concentrations in soil of 2.9 pC/g to ensure compliance with the 25 mrem/y total effective dose equivalent limit. The NRC approved this DCGL.

There are two components to the DNSC's response to this RAI.

1. 10 CFR Part 20.1401 provides the regulatory compliance framework as it relates to requirements set forth in 10 CFR 20.1402 for former SDMP sites. These criteria are emphasized in the excerpt below.

§ 20.1401 General provisions and scope.

(a) The criteria in this subpart apply to the decommissioning of facilities licensed under parts 30, 40, 50, 52, 60, 61, 63, 70, and 72 of this chapter, and release of part of a facility or site for unrestricted use in accordance with § 50.83 of this chapter, as well as other facilities subject to the Commission's jurisdiction under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended. For high-level and low-level waste disposal facilities (10 CFR parts 60, 61,

and 63), the criteria apply only to ancillary surface facilities that support radioactive waste disposal activities. The criteria do not apply to uranium and thorium recovery facilities already subject to appendix A to 10 CFR part 40 or the uranium solution extraction facilities.

(b) **The criteria in this subpart do not apply to sites which:**

(1) Have been decommissioned prior to the effective date of the rule in accordance with criteria identified in the Site Decommissioning Management Plan (SDMP) Action Plan of April 16, 1992 (57 FR 13389)...

Therefore, it is the DNSC's position that the NRC's RAI request is neither applicable nor relevant to the PSR based on the above legislation. The DNSC completed work in 1995; the regulation became effective on August 20, 1997.

2. The second component of the DNSC's response is a retrospective evaluation of the land area since the remediation and of the residual Th-232 soils concentrations as found during the 1996 confirmatory survey, relative to the approved DCGL for the current CBD.
 - a. Since remedial actions were completed, the PSR has undergone extensive grading, backfilling and facility construction that would effectively reduce any impacts of the as-found final radiological status.
 - b. The confirmatory survey of the PSR was conducted over the footprints and surrounding area of the L- and M-Line warehouses where thorium was stored. This survey included multi-point soil sampling of both randomly selected 100 m² grids and judgmental samples of locations identified for additional investigation based on gamma scan results. The total number of samples collected was 57—40 random-based and 17 judgmental. The gross Th-232 concentrations in these samples ranged from <0.2 to a maximum of 2.1 pCi/g. These results

demonstrate that the PSR not only satisfied the SDMP criteria but also are well below the contemporary DCGLs that were established for the remainder of the CBD.

REFERENCES

Oak Ridge Institute for Science and Education (ORISE) . Final Report—Historical Site Assessment of the Curtis Bay Depot, Curtis Bay, MD. Oak Ridge, TN; August 2005.

Oak Ridge Institute for Science and Education. Confirmatory Survey of the Curtis Bay Depot, Curtis Bay, MD. Oak Ridge, TN; May 1997.