

Technical Evaluation Report
Naval Research Laboratory, Chesapeake Beach Detachment
Department of the Navy
Docket No. 030-29462/License No. 45-23645-01NA

INTRODUCTION

In a letter dated October 10, 2014 (ML14317A374), the U.S. Department of the Navy (Navy) submitted a request for an approximate four-year extension to its alternate decommissioning schedule for the Naval Research Laboratory, Chesapeake Beach Detachment (Chesapeake Beach) to the U.S. Nuclear Regulatory Commission (NRC) for review and approval pursuant to 10 CFR 30.36(i). The Navy's original request for an alternate decommissioning schedule for this site was contained in a letter dated June 3, 2013 (ML13165A300), with additional information provided in letters dated August 9, 2013 (ML13249A290), October 7, 2013 (ML13303A965), and October 30, 2013 (ML13330B611). On March 24, 2014, (ML14084A250), the NRC approved the Navy's prior request for an alternate decommissioning schedule to complete decommissioning activities by October 31, 2014. The Navy has now requested that the time for submitting the Final Status Survey (FSS) Report required by 10 CFR 30.36(j) to document the completion of decommissioning at the Chesapeake Beach be extended until July 30, 2018.

This Technical Evaluation Report (TER) addresses the review and approval of the extension to the decommissioning schedule for the Chesapeake Beach. The NRC's review was conducted in accordance with NUREG-1757, Volume 3 (Revision 1), "Consolidated Decommissioning Guidance – Financial Assurance, Recordkeeping, and Timeliness."

BACKGROUND

The use of natural uranium, depleted uranium (DU), and thorium for Research & Development was initially authorized at Chesapeake Beach under Atomic Energy Commission License No. SMB-448 on October 6, 1972. After the NRC issued a Master Materials License (MML) to the Navy, the Navy issued a Navy Radioactive Materials Permit (NRMP) No. 08-00173-E1NP to Chesapeake Beach. Under its NRMP, the Navy stored and used DU in high velocity impact studies in the Building 218C target chamber and Building 227 vault. The last use of DU at Chesapeake Beach was in the fall of 1992. The Navy submitted a Decommissioning Plan (DP) (ML081640631), dated May 22, 2008, for the Hypervelocity Gun Facility (Building 218), at Chesapeake Beach. A Safety Evaluation Report (SER) dated June 19, 2008 (ML14041A338), for the DP for Chesapeake Beach was prepared by the NRC staff, supporting approval of the DP. The DP was incorporated into the Navy's MML on June 18, 2009. The SER for the DP evaluated: (1) the radiological status of the facility; (2) the unrestricted release criteria; (3) the planned decommissioning activities; (4) project management and organization; (5) the radiation safety and health program; (6) the environmental monitoring and control program; (7) the radioactive waste management program; (8) the quality assurance program; (9) facility radiation surveys; and (10) financial assurance.

Decommissioning work at Chesapeake Beach was initiated on January 5, 2011, and site work was completed on February 22, 2012. The contractor responsible for decommissioning work at Chesapeake Beach had experienced financial difficulties and was also in litigation with the employee that performed the FSS. As a result of its financial difficulties and the litigation, some

of the FSS data was not available to the contractor; therefore, the contractor was not able to provide a complete FSS report to the Navy in the contractually agreed upon timeframe. Although several draft reports were provided, the Navy's review of the information determined that the FSS draft reports did not provide sufficient documentation of the FSS results necessary to demonstrate compliance with the criteria and guidance set forth in the DP and NRC regulations. As a result, the Navy needed additional data that required further evaluation and review in order to provide a more accurate and complete report to the NRC. The Navy originally believed that they would acquire this additional data and would have sufficient time to submit a complete FSS Report to NRC by October 31, 2014.

During the period from February 4 through March 6, 2013, the NRC conducted a routine inspection of the activities authorized by the Navy MML. Based on the results of the inspection [documented in the Inspection report dated April 9, 2013 (ML13101A109)], the NRC determined that the Navy was not in compliance with the requirements of 10 CFR 30.36(h)(1) for failing to complete decommissioning at the Chesapeake Beach site within the specified time limits. As part of the proposed corrective actions to address the violation (ML13135A063), the Navy requested an alternate decommissioning schedule extending the date to document the completion of decommissioning until October 31, 2014, to provide them time to evaluate and restructure the FSS Report before submitting it to the NRC. In addition, as part of the corrective actions, the Navy developed a Standard Operating Procedure (SOP) to programmatically address decommissioning timeliness for Navy and Marine sites undergoing decommissioning. The request for an alternate decommissioning schedule, until October 31, 2014, was approved on March 24, 2014.

Since receiving approval for an alternate schedule the Navy has continued to experience challenges in retrieving all pertinent survey data, which has caused the Navy's current contractor to be unable to provide an FSS report that complies with the criteria and guidance in their DP and NRC regulations by October 31, 2014. The Navy is working to hire a new contractor per their contracting process; and will have to re-perform the final status surveys and develop a FSS report in order to demonstrate that the area has been remediated to acceptable levels as delineated in the DP. Under their process, the Navy's technical staff would then review the FSS report and submit it to the Naval Radiation Safety Committee (NRSC). The NRSC would then submit it to the NRC for review and approval.

SITE DESCRIPTION

The decommissioned site is located against a hillside approximately 1,000 feet from the bay near Chesapeake Beach, Maryland. At the facility, various metallic projectiles were fired against DU shapes and DU with explosives (targets) in a completely enclosed containment system. Various parts of the containment system and the environmental room, where the targets were inserted and removed from a steel chamber, were contaminated with residual DU on surfaces.

TECHNICAL EVALUATION FOR ALTERNATE DECOMMISSIONING SCHEDULE

NRC staff has reviewed the Navy's request to revise their previously approved alternate schedule and extend the time period established in 10 CFR 30.36(i), using guidance contained in NUREG 1757, Volume 3, Section 2.6.

The NRC staff concluded that a review of the radiation safety and health program, financial assurance, and environmental monitoring and control program was not required because they had been previously approved during review of Chesapeake Beach's DP, and this extension request will not change those previous commitments. The Navy has requested an extension in its decommissioning completion due date from October 31, 2014 to July 30, 2018, because it has not been able to retrieve all the data from the previous FSS as expected. An extension of the date to document the completion of decommissioning activities will provide the Navy with the time needed to obtain another contractor to perform another FSS.

10 CFR 30.36(i) states:

"The Commission may approve a request for an alternative schedule for completion of decommissioning of the site or separate building or outdoor area, and license termination if appropriate, if the Commission determines that the alternative is warranted by consideration of the following:

- (1) Whether it is technically feasible to complete decommissioning within the allotted 24-month period;
- (2) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period;
- (3) Whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;
- (4) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and
- (5) Other site-specific factors which the Commission may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, ground-water treatment activities, monitored natural ground-water restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee."

The NRC has considered the five factors identified above and determined the following:

- (1) It is not technically feasible to complete decommissioning within the allotted 24-month period. Although on site remediation and waste disposal activities have been completed, due to ongoing financial and legal issues experienced by the original contractor, the Navy has not been able to submit an FSS report to the NRC. As discussed in the Navy's October 10, 2014, letter, it is expected to take more than a year to procure the services of a new contractor and have them perform the final status surveys.
- (2) As part of the decommissioning activities that the Navy has undertaken, waste has already been shipped from the site and disposed of in accordance with the DP and there is no waste remaining at the site. There are no waste disposal issues that would impact the Navy's ability to complete decommissioning.
- (3) The decommissioning wastes generated for disposal from the remediation activities at the Chesapeake Beach site do not contain short-lived radionuclides. Therefore, there are no

volume reduction benefits that would be achieved by allowing short-lived radionuclides to decay.

- (4) The decommissioning wastes generated for disposal from the remediation activities at the Chesapeake Beach site do not contain short-lived radionuclides. Therefore, there is no significant reduction in radiation exposure to workers that would be achieved by allowing short-lived radionuclides to decay. Waste has already been removed from the site.
- (5) One of the site specific factors that the NRC considered at Chesapeake Beach is the inability to retrieve data from the contractor that performed the previous FSS due to ongoing financial difficulty and litigation. Although several draft FSS reports were provided, the Navy determined that the draft reports did not comply with the criteria and guidance set forth in the DP and NRC regulations. The Navy is now working to hire another contractor to perform a new FSS and write another FSS Report. The NRC staff considers the performance issues of the Navy's contractor that led to the unavailability of the FSS data to not be reasonably foreseeable and, as such, to be beyond the Navy's control. As previously indicated, the Navy has developed a programmatic solution that should address future decommissioning timeliness.

CONCLUSION

Based on the considerations discussed above, the NRC staff concludes that there is reasonable assurance that the health and safety of the public will not be endangered by extending the completion date of the previously approved alternate schedule for completion of decommissioning activities. The staff further concludes that it is in the public interest to grant the extension of time to allow the Navy to have another FSS performed in order to demonstrate that decommissioning activities were completed in accordance with the approved DP. The NRC will amend the Navy's MML extending the decommissioning completion due date for the Chesapeake Beach site to July 30, 2018.

PRINCIPAL CONTRIBUTOR

Orysia Masnyk Bailey, Health Physicist

December 31, 2014

REFERENCES

- A. NUREG-1757, Volume 3, (Revision 1), "Consolidated Decommissioning Guidance – Financial Assurance, Recordkeeping, and Timeliness"
- B. Division of Waste Management and Environmental Protection, Decommissioning & Uranium Recovery Licensing Directorate, Instructions/Procedures
- C. 10 CFR 30.36(i)
- D. Final Decommissioning Plan, Hypervelocity Gun Facility (Building 218), Naval Research Laboratory, Chesapeake Bay Detachment, Chesapeake Beach, Maryland (ML081640631)

- E. Safety Evaluation Report, Approval Of Department of The Navy Decommissioning Plan, Naval Research Laboratory, Hypervelocity Gun Facility, Chesapeake Beach, Maryland, Docket 03029462 (ML14041A338)
- F. Navy MML 45-23645-01NA, Amendment 20, incorporating Chesapeake Beach DP (This document is classified as Security Related Information – Official Use Only, and is not publicly available.)
- G. Federal Register Notice dated January 13, 2009, Notice of Availability of Environmental Assessment and Finding of No Significant Impact for License Amendment to Materials License No. 45-23645-01NA, to Incorporate the Decommissioning Plan for the Hypervelocity Gun Facility at the Naval Research Laboratory in Chesapeake Beach, MD
- H. NRC Inspection Report No. 03029462/2013001, Department Of The Navy Biennial Inspection And Notice Of Violation, dated April 9, 2013 (ML13101A109)
- I. Department of the Navy, Reply to a Notice of Violation, Letter dated May 6, 2013 (ML13135A063)
- J. Navy letter dated June 3, 2013, “Alternate Schedule Request for Submission of Final Status Survey Reports” (ML13165A300)
- K. Navy letter dated August 9, 2013, “Response to NRC Request for Additional Information (Docket No. 03029462) Concerning Navy’s Alternate Schedule Request for Submission of Final Status Survey Reports of 03 June 2013” (ML13266A234)
- L. Navy letter dated October 7, 2013 “Update Concerning Navy’s Alternate Schedule Request for Submission of Final Status Survey Reports on 03 June 2013” (ML13303A965)
- M. Navy letter dated October 30, 2013, “November Update Concerning Navy’s Alternate Schedule Request for Submission of Final Status Survey Reports on 03 June 2013” (ML13330B611)
- N. Navy e-mail dated February 25, 2014, “RE: New Final Status Survey”. (ML14064A064)
- O. NRC letter dated March 24, 2014, “Response to Alternate Schedule Request Concerning Naval Research Laboratory Chesapeake Detachment and Naval Surface Warfare Center Dahlgren Division for Completion of Decommissioning Activities (ML14084A517)
- P. Navy letter dated September 5, 2014, “Update Concerning Navy’s Alternate Schedule for Submission of Final Status Survey Report” (ML14274A305)
- Q. NRC email dated September 25, 2014, “Naval Research Laboratory Chesapeake Beach Detachment” (ML14317A371)
- R. Navy letter dated October 10, 2014, “Request for Alternate Schedule for Completion of Decommissioning at Naval Research Laboratory Chesapeake Beach Detachment” (ML14317A374)