

Technical Evaluation Report  
Naval Postgraduate School Monterey, California  
Department of the Navy  
Docket No. 030-29462/License No. 45-23645-01NA

## INTRODUCTION

During an NRC inspection of the Department of the Navy's (Navy) Master Materials License (MML), conducted February 4 through March 6, 2013, a violation of 10 CFR 30.36(d)(2) was identified. The NRC issued a Severity Level (SL) IV violation to the Navy on April 9, 2013 (ML13101A109) for their failure to begin decommissioning or to submit a decommissioning plan (DP) for the Navy Postgraduate School (NPS) in Monterey, California, as required by NRC regulations at the cessation of licensed activities. Principle activities at the NPS ceased as of December 2009. The Navy was required to advise the NRC of this within 60 days and either initiate decommissioning activities or submit a DP within 12 months. In response to the violation, by letter dated February 21, 2013, (ML13106A077) the Navy submitted a request for an alternate decommissioning schedule for the NPS to the NRC for review. This request was rejected for review by the NRC on May 22, 2013, (ML13142A295) because it lacked sufficient detail to allow for a preliminary review.

By letter dated August 9, 2013, (ML13249A303) the Navy resubmitted its request, specifically requesting extensions to the time periods in 10 CFR 30.36(d), 30.36 (f), and 30.36 (g)(2) for initiating decommissioning and submitting a DP. The Navy requested an extension of time to allow for the completion of a Historical Radiological Assessment (HRA). By letter dated July 17, 2014, (ML14219A376), pursuant to 10 CFR 30.36 (f), the Navy requested an alternate schedule to allow for a ten year delay in initiating decommissioning activities, and advised that a DP would be required for the NPS. By letter dated October 20, 2014, (ML14303A488), the Navy reiterated its request for a delay in submitting a DP for the NPS and requested a delay in the submission of a DP to the NRC. These last three Navy letters were in response an NRC letter dated May 22, 2013, requesting addition information and clarification on the Navy's request. The NRC subsequently accepted the Navy's combined requests for review and published in the Federal Register a "request for alternate decommissioning schedule; opportunity to comment, request a hearing, and petition for leave to intervene" on March 17, 2014 [Vol. 78, No. 51, pp 14751-14753]. The Navy has specifically requested an alternate decommissioning schedule that would delay the initiation of decommissioning activities and allow for them to be completed by March 31, 2028 at the NPS. The Navy provided additional information to support its requests in a letter dated February 26, 2015 (ML15097A193).

The Navy has requested three things; a delay in initiating decommissioning activities, a delay in the time frame for submitting a DP, and a delay in completion of decommissioning activities. This Technical Evaluation Report (TER) addresses the review of the extension to the decommissioning schedule for the NPS. 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 NPS held numerous radioactive materials licenses issued by the Atomic Energy Commission (AEC) from 1951 until 1974 and from the NRC from 1974 until 1985, which authorized the possession and use of radioactive materials in support of the school's engineering and sciences programs. In 1985, the NRC issued the Navy a MML. The Navy's

license was subsequently terminated and a Broad Scope Type A permit (NRMP-04-62271-F1NP) was issued to the NPS under the Navy's MML program.

Activities at the NPS included research and development, high energy linear accelerator operations and radioactive material generation for research. Special nuclear material, both sealed and unsealed, was used in laboratory settings in support of student instruction, radiation detection technology development, and nuclear physics research. The NPS also possessed and operated an AGN-201 research reactor under an AEC license. The reactor was decommissioned and transferred to California Polytechnic State University prior to 1972 under AEC supervision.

In February 2010, the Navy requested permission (ML100680587) to perform limited remediation work at the NPS. The NRC approved this request on April 1, 2010 and amended the MML to allow the Navy to decontaminate the NPS storage area in Building 232. Between May 24 and June 28, 2010, an NRC licensed contractor performed decontamination and remediation activities in the storage area consisting of Rooms 000, 001, 003C, 003E, removing various contaminated equipment, including the removal of the sink and fume hood in Room 003E and 18 linear feet of piping and surrounding material. The radionuclides of concern in Building 232's storage area were Radium 226, Americium 241, Cobalt 60, and Cesium 137.

Upon completion of the decontamination and remediation activities the NPS permit was amended by the Navy on September 17, 2010, to a possession only permit (NRMP-04-62271-D1NP). Inspections performed by the MML's Radiological Affairs Support Office (RASO) on May 25, 2011, June 24, 2011, and August 20, 2012, found that the NPS was appropriately implementing its possession only permit.

## SITE DESCRIPTION

The NPS is located in Monterey, California, 120 miles south of San Francisco. The NPS campus covers 627 acres of land in Monterey County and is located about one mile from the Pacific Ocean. The school has been at this location since 1947. Licensed material use was authorized in several buildings, including Herrmann Hall, Glasgow Hall, Spanagel Hall, Halligan Hall and Root Hall. Routine surveys by Navy personnel over the years have not disclosed residual contamination where radioactive material was used except for storage rooms in Building 232.

## TECHNICAL EVALUATION FOR ALTERNATE DECOMMISSIONING SCHEDULE

10 CFR 30.36(d) requires a licensee to provide notification to the NRC in writing within 60 days of one of the following: the license has expired; the licensee has decided to permanently cease principal activities at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC requirements; no principal activities under the license have been conducted for a period of 24 months; or no principal activities have been conducted in any separate building or outdoor area; that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC requirements. The licensee is required to begin decommissioning the site or separate area or to submit a DP with 12 months of notification if a DP is required.

10 CFR 30.36(f) allows the Commission to grant an extension to the time periods established in 10 CFR 30.36(d). That is, to allow for a delay in beginning decommissioning activities or to

submit a DP if the Commission determines that this relief is not otherwise detrimental to the public health and safety and is otherwise in the public interest.

10 CFR 30.36(g)(2) allows the Commission to approve an alternate schedule for submittal of a DP if the Commission determines that the alternative schedule is necessary to the effective conduct of decommissioning and presents no undue risk from radiation to the public health and safety and is otherwise in the public interest.

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 Navy requested the following: (1) a delay in initiating decommissioning activities, (2) a delay in the time frame for submitting a DP, and (3) a delay in completion of decommissioning activities.

The NRC staff has reviewed the Navy’s requests for an alternate schedule for initiating decommissioning activities, submittal of a DP, and completion of decommissioning activities, using guidance contained in NUREG 1757, Volume 3 (Revision 1).

AEC and NRC licenses previously issued to the Department of Defense (DOD), including the Navy, authorized the use of any licensed material in any amount or form anywhere in the United States. DOD (not the NRC) requires the Navy to follow the DOD decommissioning process which requires that a HRA be completed to ensure that the radiological history and characterization of each facility is accurately known in order to determine if decommissioning and remediation is needed prior to terminating a permit. The MML has a financial Statement of Intent for each place of use under the MML. However, as outlined by the DOD, stringent procedures are in place for funding activities. As a result, it requires each step of the decommissioning process to be scoped and funded separately while taking into account the appropriations provided by Congress in a given fiscal year. Based on DOD’s requirements the HRA, scoping or characterization survey, completion of a DP, remediation work, and Final Status Survey (FSS) are all funded separately. This extends the initiation and completion of decommissioning activities well past the time frames delineated in 10 CFR Part 30.36. It is only after completion and review of an HRA that the Navy can determine what, if any, decommissioning activities are required.

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 evaluated and approved during permitting reviews, inspections by RASO, and by the NRC during the biennial MML inspections, most recently conducted February 4 through March 6, 2013 (ML13101A109). The Navy has maintained a radiation safety program at the NPS and also maintains the appropriate financial assurance that is needed for their facilities. The Navy has requested alternate decommissioning schedules that would allow for decommissioning activities to be complete at the NPS by March 31, 2028.

The NRC reviewed the Navy's request for a delay in initiating decommissioning activities under 10 CFR 30.36(f) and determined that it was not detrimental to the public health and safety to do so. The Navy has a radiation safety program in place at the NPS, which includes a trained radiation safety staff, procedures, and routine radiation surveys to demonstrate that there is no spread of radioactive contamination. Also, allowing a delay in initiating decommissioning activities serves the needs of national defense, allowing the Navy to utilize funds where they are more greatly needed and to prioritize the facilities that most need remediation activities.

The NRC reviewed the Navy's request for delaying the submittal of a DP and determined that the alternate schedule for submittal of a decommissioning plan is necessary to the effective conduct of decommissioning operations and presents no undue risk from radiation to the public health and safety and is otherwise in the public interest. A delay in submitting a DP would allow for the completion of an HRA. This will help the Navy determine if a DP is required; and if so will allow them to develop the most efficient and cost effective DP.

The NRC reviewed the Navy's request for a delay in completing decommissioning activities and considered the five factors delineated in 10 CFR 30.36(i) as follows:

- (1) Based on the previously completed decommissioning and remediation activities at the site, the NRC staff believes it will be technically feasible to complete decommissioning within the allotted 24-month period once activities begin at NPS. Similar activities and efforts are expected should additional areas be found to need remediation.
- (2) As part of previous remediation activities that the Navy undertook in 2010, waste was shipped from the site and disposed of in accordance with the NPS permit. Currently there is no radioactive waste at NPS. Minimal waste is expected to be generated from any future decommissioning activities that may be needed to support termination of NPS's permit.
- (3) Wastes generated for disposal from previous remediation activities at the NPS did not contain short-lived radionuclides, and none are expected as a result of anticipated future decommissioning activities. Therefore, volume reduction benefits that would be achieved by allowing short-lived radionuclides to decay are not a consideration.
- (4) Wastes generated for disposal from previous remediation activities at the NPS did not contain short-lived radionuclides, and none are expected as a result of anticipated future decommissioning activities. Therefore, reduction in radiation exposure to workers is not a consideration.
- (5) A site specific factor that the NRC considered as part of its review is the need for an HRA to be completed at the NPS to adequately determine if any further decontamination activities are needed. In performing the HRA, the Navy will assemble all documents related to licensed activities at the NPS, including previous decommissioning activities. If no further work is required, this information can be used by the Navy to demonstrate that the NPS is suitable for unrestricted release, if it is found to contain sufficient detail and analytical data to support site release. However, as outlined by the Navy, DOD's process for decommissioning a facility or site limits the Navy's ability to start and complete decommissioning within the timeframe established in NRC's regulations.

## 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 the Navy's requests for alternative schedules for initiating decommissioning activities, submittal of a DP, and completion of decommissioning activities. The staff further concludes that it is in the public interest to grant the extension of time to start decommissioning in order to allow the Navy to complete the HRA for the NPS. The NRC has determined it is acceptable to amend the Navy's MML to allow for the delay in the initiation of decommissioning activities and allow for the completion by March 31, 2028, at NPS.

## 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
- D. Federal Register on March 17, 2014 [Vol. 78, No. 51, pp 14751-14753, Request for alternate decommissioning schedule; opportunity to comment, request a hearing, and petition for leave to intervene."
- E. Navy letter dated February 19, 2010, "Request to Amend License No. 45-23645-01NA" (ML100680587)
- F. NRC Materials License No. 45-23645-01NA, Revision 21, dated April 1, 2010
- G. Navy letter dated February 21, 2013, "Request for Alternate Decommissioning Schedule, and Historical Radiological Assessment Activities for Naval Radioactive Materials Permit (NRMP 04-62271-F1NP)" (ML13106A077)
- H. NRC letter dated April 9, 2013, "NRC Inspection Report No. 03029462/2013001, Department of the Navy Biennial Inspection and Notice of Violation" (ML13101A109)
- I. NRC letter dated May 22, 2013, "Department of the Navy, Request for Alternate Decommissioning Schedule, Control No. 580151 (ML13142A295)
- J. Navy letter dated August 9, 2013, "Request For Alternate Schedule of Decommissioning at Naval Postgraduate School" (ML13249A303)
- K. NRC letter dated January 14, 2014, "Department of the Navy, Acknowledgement of Receipt of Request for Alternate Schedule of Decommissioning at Naval Postgraduate School, Control No. 581663" (ML14028A533)
- L. NRC letter dated June 18, 2014, (ML14171A547), "Office of Chief of Naval operations, Request for Alternate Decommissioning, Control No. 581663" (ML14171A547)
- M. Navy letter dated July 17, 2014 "Request For Additional Information Concerning Request For Alternate Decommissioning Schedule, Control No. 581663" (ML14219A376)
- N. Navy letter dated October 20, 2014 "Request For Alternate Decommissioning Schedule, For Submittal Of A Decommissioning Plan, Control Number 581663" (ML14303A488)
- O. Navy letter dated February 26, 2015, "Request For Information Concerning Naval Postgraduate School Decommissioning Plan" (ML15097A193)
- P. FINAL REPORT, Naval Postgraduate School Building 232, Phase 3, Rooms 000 and 001 Decontamination, Monterey, CA, Rev.0, dated August 19, 2011 (ML13162A239)

Principle Reviewer: Orysia Masnyk Bailey