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NUCLEAR REGULATORY COMMISSION
REGION II
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November 14, 2002

Department of the Navy
Naval Radiation Safety Committee
Chief of Naval Operations (N-45)
ATTN: RDML R. Reilly
Chairman
Crystal Plaza 5
2211 South Clark Place, Room 680
Arlington VA 22 202-3735

SUBJECT: NRC INSPECTION REPORT 45-23645-01NA/02-07

Dear Admiral Reilly:

On October 11, 2002, the NRC completed an annual review of activities authorized under the Navy Master Materials License. The exit interview for this inspection was held with you and members of your staff on October 11, 2002. The enclosed report presents the results of the review.

During the inspection, records were reviewed, procedures were discussed with personnel, and direct observations related to the conduct of inspections were made by the inspectors. Within the scope of the inspection, violations were not identified.

The NRC found that the Navy's implementation of the permitting and inspection programs was adequate and consistent with NRC licensing and inspection policies and procedures.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

Douglas M. Collins, Director
Division of Nuclear Materials Safety

Docket No. 030-29462
License No. 45-23645-01NA

Enclosure: (See page 2)

Department of the Navy

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Enclosure: NRC Inspection Report
No. 45-23645-01NA/01-04

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 030-29462

License No.: 45-23645-01NA

Report No.: 45-23645-01NA/01-07

Licensee: U. S. Navy

Locations: Office of the Chief of Naval Operations (N45)
Crystal City, Virginia

Naval Sea Systems Command Detachment
Radiological Affairs Support Office (RASO)
Naval Weapons Station Yorktown
Yorktown, Virginia

Naval Environmental Health Center (NEHC)
620 John Paul Jones Circle, Suite 1100
Portsmouth VA 23708-2103

Dates: September 16-20, 2002 and October 11, 2002

Inspectors: José M. Díaz Vélez, Health Physicist and Project Coordinator
for U.S. Navy Master Materials License (MML)
Materials Licensing and Inspection Branch 2
Division of Nuclear Material Safety

Héctor Bermúdez, Senior Health Physicist
Materials Licensing and Inspection Branch 2
Division of Nuclear Material Safety

Accompanied by: Donna-Beth Howe, MML Project Coordinator
Division of Industrial and Medical Safety
Nuclear Material Safety & Safeguards

Michael Williamson, General Scientist
Rule Making & Guidance Branch
Nuclear Material Safety & Safeguards

Approved by Jay L. Henson, Chief
Materials Licensing and Inspection Branch 2
Division of Nuclear Material Safety

Enclosure

EXECUTIVE SUMMARY

U. S. Navy
NRC Inspection Report No. 45-23645-01NA/01-07

This annual, announced program review was conducted to evaluate the U.S. Navy's implementation and administration of activities conducted under the Master Materials License (MML). It included a review of the licensee's radioactive materials permitting and inspection programs, results of NRC inspections of Navy facilities conducted during the review period, licensee event reports, and a review of matters related to the Naval Radiation Safety Committee's (NRSC's) oversight of activities authorized by the license. Licensee activities conducted during the period of July 22, 2001, through September 21, 2002, were reviewed during this assessment.

Through discussions with licensee staff, reviews of documents, and observations of licensee staff in the performance of their duties, the inspectors found the Navy's overall permitting and inspection program to be adequate to protect the health and safety of workers and the general public.

Personnel performing Navy Radioactive Material Permit (NRMP) reviews and inspections of activities covered by NRMPs were knowledgeable. Both review and inspection criteria were generally comparable to NRC reviews and inspections of similar activities.

The program areas included in this report are listed below:

Management Oversight

- The NRSC conducted operations in accordance with the MML conditions and NRC regulations. The NRSC was effective in carrying out its responsibility of providing oversight to the Navy's radiation safety and regulatory compliance program.

Organization and Scope of the Licensee Program

- The Navy's permitting and inspection program was organized and implemented as required by the MML and NRC regulations.

The Permitting Function

- With a few minor exceptions, the Navy's permitting program was conducted in a manner that was compatible with NRC's licensing policies, procedures, and guides.

The Inspection Function

- The Navy's inspection program was conducted in a manner that was compatible with NRC's inspection policies, procedures, and guides.

Licensee Event Reports

- The NRSC reported four events to the NRC since the last annual review. The threshold of reporting incidents or events to NRC was conservative and in some cases reports were made when there was no regulatory requirements for the providing reports.

NRC Inspections of Navy Permittees

- The NRC inspected six permitted activities since the last annual review. No violations were identified during these inspections.

Attachment:

Persons Contacted

Manual Chapter Used

Items Opened, Closed, and Discussed

Abbreviations

REPORT DETAILS

1. Management Oversight

a. Inspection Scope

The inspectors reviewed the licensee's radiation safety committee (RSC) organization and management oversight activities to determine whether the Navy Radiation Safety Committee (NRSC) controls the use of licensed materials as required by the MML and NRC regulations.

b. Observations and Findings

Through observations of NRSC meetings, discussions with cognizant licensee representatives, and review of program documentation, the inspectors determined that the NRSC was organized as required and had implemented management oversight procedures to control the use of licensed materials. The NRSC's membership and responsibilities as described in OPNAV Instruction 6470.3, "Navy Radiation Safety Committee" (10 December 1985). The NRSC's organization, responsibilities, and operating procedures are further described in the NRSC Standard Operating Procedures Manual (SOPM), Revision (Rev.) 4, August 2001.

The Chairman of the NRSC is the Director, Environmental Protection, Safety and Occupational Health Division, Office of the Deputy Chief of Naval Operations (DCNO), Logistics (N45). A new individual was assigned to this position in September, 2001. The Chief, Radiological Control and Health Branch is the NRSC Executive Secretary. The Executive Secretary is responsible for conducting day-to-day operations and issuing permits approved by the NRSC. Other members of the NRSC included representatives from the Chief, Bureau of Medicine and Surgery; the Commander, Naval Sea Systems Command; and, the Office of the Commandant, U. S. Marine Corps.

The Navy's MML requires that the NRSC meet on at least a quarterly basis. Since the last annual review, the NRSC met on December 1, 2001, and March 7, June 20, and September 4, 2004. The Region II Navy MML Project Coordinator attended each of these meetings. The Project Coordinator observed that the NRSC discussed, and took appropriate action on numerous substantive issues related to the Navy's MML program. During each meeting, the NRSC reviewed the status of the permitting and inspection programs, events, special interest issues and regulatory compliance issues and updates. Minutes from these quarterly meetings were distributed to all attendees.

In addition to the permitting and inspection program reviews conducted during the quarterly meetings, the NRSC, through the Executive Secretary, reviewed and issued each NRMP completed by the two technical centers responsible for the review of NRMP applications. The Executive Secretary also reviewed each inspection report issued by

the two technical centers, and forwarded a monthly summary of actions completed to the NRC MML Project Coordinator for his review. This permitted the MML Project Coordinator to monitor a selection of the actions issued by the NRSC. The Project Coordinator observed that when inspection results identified significant safety or regulatory compliance issues, the inspection report was issued by the NRSC and that the NRSC addressed the issues to the proper permittee managerial level.

The Executive Secretary also performed audits of the technical centers in August 2002. The MML Project Coordinator was present at the August 2002, NRSC meeting while the audit results were presented. The Navy auditors did not identify any areas of non-compliance as a result of the reviews at the two technical centers.

c. Conclusion

The inspectors found that the licensee effectively executed its management oversight activities as required by the MML and in a manner to adequately control the Navy's use of licensed material. The NRSC conducted licensed activities in accordance with provisions of OPNAV Instruction 6470.3 and the NRSC SOPM. The inspectors also determined that the new Executive Secretary of the NRSC was effective in performing the required functions.

2. Organization and Scope of the Licensee Program

a. Inspection Scope

The inspectors reviewed the permitting and inspection organization and the licensed activities permitted by the Navy to determine whether they met the requirements of the MML and NRC regulations.

b. Observations and Findings

The inspectors reviewed the Navy program documents that described its permitting and inspection procedures, reviewed permits issued by the NRC, and visited the two technical support centers to observe and discuss how the Navy's permitting and inspection staff are organized, how they function, and to examine their qualifications. These activities also allowed the inspectors to review the scope of licensed activities permitted by the Navy.

The Navy's MML authorizes the NRSC to issue radioactive materials permits to users of licensed material within the U.S. Navy and Marine Corps. The Navy described its organization and permitting and inspection procedures in OPNAV Instruction 6470.3 and the NRSC SOPM (Rev. 4). As described in these documents, the NRSC manages the Navy's implementation of its MML program and the Executive Secretary of the NRSC is responsible for conducting day-to-day operations and issuing permits. The NRSC and Executive Secretary are assisted in the performance of their duties by two technical support centers, the Navy Environmental Health Center (NEHC) and the Radiological Affairs Support Office (RASO).

Through discussion with key personnel and review of pertinent documentation, the inspectors verified that NEHC, which is a part of the Navy Bureau of Medicine (BUMED), reviews applications to issue, amend, renew, and terminate permits received from medical and medical research activities. NEHC also conducts inspections of these permitted activities. The inspectors also verified that RASO, which is a part of the Naval Sea System Command (NAVSEA) organization, reviews applications to issue, amend, renew, and terminate permits received from industrial and non-medical research activities. RASO also conducts inspections of these industrial and non-medical activities. Both centers forwards all completed permits and inspection reports to the Executive Secretary for review, approval, and release by the NRSC.

At the time of the inspection, NEHC and RASO were responsible for 27 and 119 permits, respectively. NEHC employed three individuals (one officer and two civilians) in its radioactive materials permitting and inspection program. RASO employed 14 individuals (four military and ten civilians) in its permitting and inspection program. In addition, these individuals are assigned other environmental duties. One of the two civilian positions at NEHC was vacated during the previous inspection period, and the licensee had filled the position during this inspection period; however, due to circumstances beyond the control of the licensee, the position was vacated shortly after it was filled and remains vacant. The military officer at NEHC participated in the Revised Part 35 Workshop held in August 2002 at NRC Region I Office and at the Diagnostic and Therapeutic Nuclear Medicine Course during this inspection period. The inspectors determined that all other permitting and inspection staff at NEHC and RASO had completed the required NRC's materials licensing and inspection qualification courses. Many of the staff had also attended other licensed materials-related training courses since the previous inspection.

c. Conclusion

The inspectors found that the Navy's permitting and inspection program was organized as required by the MML. The inspectors concluded that the permitting and inspection staffing at both technical support centers was adequate to accomplish licensed activities.

3. The Permitting Function

a. Scope:

The NRC inspectors reviewed a sample of permitting actions completed by the technical support centers to assess consistency and conformity with NRC licensing procedures. The inspectors reviewed several permit applications and the associated permits to determine if the reviewer actions taken and conditions included in the issued permits were consistent with NRC licensing practices.

b. Observations and Findings:

(1) NEHC

At the time of the review, NEHC was responsible for 27 medical and medical research permits. Since the last annual review, NEHC had renewed 1 permit, denied 4 permittee requests for amendments and issued 37 permit amendments. The inspectors determined that at the time of the review, there were no overdue permitting actions awaiting completion.

The inspectors reviewed 9 of the 38 permitting actions completed by NEHC since the last annual review, including the one renewal and eight of the 37 completed amendments. The inspectors also reviewed one of the four denials issued by NEHC and determined that the reason for the denials was the incomplete status of the information submitted by the permittees.

The inspectors noted that the NEHC staff made use of checklists similar to those used by NRC license reviewers to document the results of their permitting action reviews. The NEHC reviewers clearly documented their reviews and the deficiencies they identified. Deficiencies were documented in letters and telephone records and communicated to their permit holders. The NEHC reviewers also prepared draft amendments to all permits for signature by the Chairman of the Naval Radiation Safety Committee (NRSC).

Based on a review of permit files and interviews, the inspectors determined that NEHC staff used applicable NRC licensing guidance, and that permit actions were completed within the NRSC's timeliness goals. The inspectors noted extensive use of current NRC licensing guidance by the NEHC staff.

(2) RASO

At the time of the review, RASO was responsible for 119 industrial use permits. Since the last annual review, RASO had issued 7 new, renewed 28, amended 59, and terminated 10 permits.

The inspectors reviewed 10 of the 84 permitting actions completed by RASO since the last annual review including one of the seven permits reviewed, five of the 59 amendments, three of the 28 renewals, and one permit termination.

RASO staff performed detailed, thorough permit reviews and utilized licensing checklists similar in scope to those used by NRC staff. Deficiency letters and telephone conversation records adequately documented deficiencies. Permittee responses to deficiencies were consistently tied down in the permits.

The inspectors identified one example in which the licensee used excellent extensive use of the current licensing guidance, NUREG 1556 series, while reviewing a permit application for a Vehicle and Cargo Inspection System. The licensee used NUREG 1556 V.1, V.4 and V.20 simultaneously and incorporated a license condition that prevented the permittee from obtaining authorization to use the device with incorrect operating procedures. The license condition required an announced initial inspection which identified the procedural problem.

Based on a review of permit files and discussions with RASO staff, the inspectors determined that RASO reviewed permitting actions using applicable NRC licensing guidance and standard review plans and completed their permitting actions well within timeliness goals.

c. Conclusion:

Overall, the inspectors concluded that the NEHC and RASO staff processed permits in a manner consistent with NRC licensing policies, procedures and guidance. Furthermore, based on a random review of licensing checklists and deficiency records and interviews of staff, it appears the two technical support centers conducted quality technical reviews based on sound health physics practices.

4. The Inspection Function

a. Scope

The NRC inspectors reviewed a sample of the permit inspections completed by the technical support centers since the last annual review to assess consistency and conformity with NRC inspection procedures. The MML requires that the NRSC incorporate the NRC's inspection criteria into the Navy's inspection guides to assure compatibility of inspection programs between the Navy and the NRC. The NRC's inspection program is described in Inspection Manual Chapter 2800, Materials Inspection Program.

b. Observations and Findings

The Navy performed a total of 60 inspections of permits. The NRC inspectors reviewed a sample of 18 permit inspections completed by the licensee during the review period to assess consistency and conformity with NRC inspection procedures. NEHC personnel performed 13 inspections during the period and RASO personnel performed 47 inspections. The Navy announced all their inspections to their permittees.

(1) Inspections by the Navy Environmental Health Center

The inspectors reviewed inspection documentation for 13 inspections completed by NEHC since the last NRC inspection. There were no deviations from NRC inspection policies regarding documentation of observations and findings. In general, the details and the completeness of the inspection records, allowed NRC inspectors to clearly understand the Navy's inspection program. Inspections documented activities which

demonstrated the permittees' performance in a variety of safety-related areas. The inspectors also noted that when violations were identified, NEHC inspectors substantially documented the findings, and generated inspection reports and issued enforcement documents on time. In addition, the inspectors noted that NEHC's review of corrective actions, proposed or implemented by permittees as a result of the Notices of Violation, were adequate. The inspectors noted that when deficiencies in corrective actions were identified, NEHC performed adequate follow-up to ensure that corrective actions were effective to prevent the recurrence, or similar deficiencies. NEHC issued 22 violations classified as Severity Level IV and 27 violations classified as Severity Level V, and all but one program was found satisfactory. The inspectors noted that on some occasions, violations identified by NEHC were characterized at a higher severity level when compared with the NRC Enforcement Policy.

(2) Inspections by the Radiological Affairs Support Office

The inspectors reviewed inspection documentation for 10 inspections completed by RASO since the last NRC inspection. There were no deviations from NRC inspection policies regarding the documentation of observations and findings. In general, the details and the completeness of the inspection records, allowed NRC inspectors to have a clear understanding of the Navy's inspection program. Inspections documented activities which demonstrated the permittees' performance in health and safety related areas. The inspectors also noted that when violations were identified, RASO inspectors clearly documented the findings. In particular it was noted that RASO inspectors obtained copies of all pertinent records while on the permittees' site. The inspectors noted that RASO inspectors generated inspection reports and issued enforcement documents in a timely manner. In addition, the inspectors noted that RASO's review of corrective actions, proposed or implemented by permittees as a result of the Notices of Violations, were adequate. The inspectors noted that when deficiencies in corrective actions were identified, RASO performed extensive follow-up to ensure that the corrective actions were effective to prevent recurrence. RASO issued no violations classified as Severity Level III or higher, 41 violations classified at Severity Level IV, and 33 violations classified as Severity Level V. No programs were found to be unsatisfactory. The inspectors noted that on some occasions, violations identified by RASO were characterized at a higher severity level when compared with the NRC Enforcement Policy.

c. Conclusion

The inspectors determined that the Navy's inspection program was conducted in a manner that was essentially compatible with NRC's inspection policies, procedures, and guides. No violations of NRC regulatory requirements were identified in this area.

5. Licensee Event Reports

a. Scope

The NRC inspectors reviewed the event reports submitted by the NRSC to the NRC since the last annual review to determine if all events had been reported as required by the regulations.

b. Observations and Findings

Through discussions with key Navy personnel, the inspectors determined that the NRSC's threshold for reporting incidents or events to NRC was conservative. The NRSC reported some incidents that were below the NRC reporting requirements.

Four events were reported to the NRC since the last annual review. They involved the loss of licensed material due to the loss of aircraft. Three of them involved the loss of 9 microcuries (uCi) of americium-241 contained in AN/AAQ-25 LANTRIN laser target systems that were mounted in F-14 aircraft. One of them involved the loss of 500 uCi of strontium-90 contained in an in-flight blade inspection system (IBIS) that was mounted in a CH-53E helicopter.

The NRC continued to follow up on the event involving the improper expenditure of depleted uranium munitions in Vieques Island, PR. NRC continues to follow the Navy's actions with regard to remediation activities associated with the event.

c. Conclusion

The inspectors determined that the NRSC had notified the NRC of reportable events as required by the regulations and in some cases incidents that were below the minimum reporting requirements.

6. NRC Inspections of Navy Permittees

a. Scope

The NRC performed independent inspections of Navy permitted activities to assess the adequacy of permitted radiation safety programs and compliance with NRC regulations and the MML license. The NRSC's corrective actions implemented in response to cited violations was assessed for completeness, timeliness and effectiveness.

b. Observations and Findings

During this reporting period, the NRC inspected 6 Navy permitted facilities. All 6 were routine inspections during which no violations were identified. The inspections were performed by several different NRC inspectors, representing all of the NRC regional offices. The results of these inspections were documented in separate inspection records.

c. Conclusion

The results of the NRC inspections of Navy permittees indicated that the Navy's permitting and inspection program was effective and permitted activities were being conducted as required by NRC regulations and the MML.

EXIT MEETING SUMMARY

An exit meeting was held with the NRSC on October 11, 2002. The overall scope and findings of the inspection were discussed. No dissenting comments were received from the NRSC, and the licensee did not specify any information reviewed during the inspection as proprietary in nature.

ATTACHMENT

1. PERSONS CONTACTED

Licensee Personnel

*RADM R. Reilly, Chairman, Naval Radiation Safety Committee (NRSC)
*CAPT D. Farrand, Executive Secretary, NRSC
*CDR W. Adams, Director, Radiological Controls Program Office, NAVSEA
LCDR V. Gaiter, Health Physics Program Manager, United States Marine Corps
Dr. J. Jones, Naval Nuclear Power Program, NAVSEA
*LT G. Khaled, Recording Secretary, NRSC
*LT J. Sanders, Naval Dosimetry, BUMED.
CDR S. Doremus, Officer-in-Charge, NAVSEA Detachment RASO
CDR V. Deinnocentiis, Environmental Program Manager, RASO
Mr. R. Lowman, Director, Radiation Safety and Environmental Program, RASO
Mr. E. Abkemier, RASO
Mr. T. Hart, RASO
Ms. L. Lowman, RASO
Mr. W. Morris, RASO
CAPT D. Sack, Commanding Officer, Navy Environmental Health Center (NEHC)
CAPT J. Need, Executive Officer, NEHC
Mr. José E. Hernández, Deputy Director, Occupational and Environmental Medicine, NEHC
LCDR P. Fetherston, Head, Radiation Health Team, NEHC
Ms. D. Clark, Radiation Health Team, NEHC

NRC Region II Personnel

*L. Reyes, Regional Administrator
*D. Collins, Director, Division of Nuclear Materials Safety (DNMS)
*J. Henson, Chief, Materials Licensing and Inspection Branch 2 (MLIB2)
*J. Díaz Vélez, Health Physicist, DNMS, Material Licensing/Inspection Branch 2

NRC Headquarters Personnel

D. Howe, MML Project Coordinator, Nuclear Material Safety & Safeguards (NMSS)
M. Williamson, General Scientist, NMSS

*Attended October 11 2002, video-telephone exit meeting.

2. MANUAL CHAPTER USED

MC 2810 Master Material License Inspection Program

3. ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED

none

CLOSED

none

DISCUSSED

none

4. ABBREVIATIONS

| | |
|--------|---|
| ADAMS | Agencywide Documents Access and Management System |
| BUMED | Bureau of Medicine |
| CAPT | Captain |
| CDR | Commander |
| DCNO | Deputy Chief of Naval Operations |
| LCDR | Lieutenant Commander |
| LT | Lieutenant |
| MML | Master Materials License |
| NAVSEA | Naval Sea Systems Command |
| NEHC | Naval Environmental Health Center |
| NRMP | Navy Radioactive Material Permit |
| NRC | Nuclear Regulatory Commission |
| NRSC | Naval Radiation Safety Committee |
| PARS | Publicly Available Records System |
| RADM | Rear Admiral |
| RASO | Radiological Affairs Support Office |
| Rev. | Revision |
| RSC | Radiation Safety Committee |
| SOPM | Standard Operating Procedures Manual |