



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

February 1, 2000

Carmen Feliciano de Melecio, MD
Secretary of Health
Commonwealth of Puerto Rico
Call Box 70184
San Juan, PR 00936

Dear Dr. Feliciano de Melecio:

This is in response to your letter dated January 23, 2000, regarding the presence of depleted uranium ammunition and possible radiation contamination on the Navy's firing range on Vieques Island, Puerto Rico. We, like you, are concerned about the delay in the retrieval of the remaining uranium. We are committed to the prompt cleanup of remaining depleted uranium ammunition and associated contamination as soon as it can be done safely. As our staffs have discussed, the Navy cannot safely continue cleanup until the area is determined to be free of unexploded ammunition. Civilian occupation of the firing range continues to delay the Navy's actions to check for and remove unexploded ammunition. An outline of key events to date is provided in Enclosure 1.

Recent press accounts indicated that a nuclear engineer had found dose rates of up to 37 milliroentgens per hour on the range. The media also reported that this engineer stated that a member of the public could soon exceed a dose limit. If a dose rate of 37 milliroentgens per hour existed, a member of the public could receive a dose in excess of NRC limits. Through the help of your office, we were able to contact the individual who performed the surveys. He told us that the highest dose rate he measured was 37 microroentgens per hour (1000 times lower than the 37 milliroentgens per hour dose rate reported by the press). He also told us that he had not stated that a member of the public was nearing a limit. Based on his survey results, the radiation levels would not cause harm to any exposed individual.

The results of the Navy's assessment of the dose to a member of the public (including the protestors) from the depleted uranium showed it is unlikely to be more than 100 millirem in a year, which is the NRC's limit for doses to members of the public from licensed activities. We have reviewed this assessment and agree with its conclusions. We believe that the Navy's actions to date have been appropriate and that public health is not at risk from the radiation exposures. We also believe that it is in the best interest of public health and safety that the remaining depleted uranium be removed as soon as it can be done safely.

We will continue to monitor the Navy's actions and plan to conduct an independent inspection of their cleanup and corrective actions, including independent measurements to confirm proper cleanup, when such actions can be done safely. Once the Navy completes their corrective actions, we will review the circumstances of the event to determine if NRC enforcement action is appropriate. For your information, Enclosure 2 outlines how the NRC regulates the Navy's use of depleted uranium.

If you have any questions, please give me a call. We would be happy to provide you any additional information you may need and, if you wish, to personally meet with you to discuss any further concerns that you may have.

Sincerely,

Luis A. Reyes
Regional Administrator

Enclosures: 1. Chronology of Key Events
and Actions
2. NRC Regulation of Use of NRC
Licensed Material

cc w/encls:

The Honorable Carlos Romero-Barcelo
Resident Commissioner of Puerto Rico
Capitol Hill
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The Honorable Adlah "Foncie" Donastorg
Chairman, Committee on Planning and Environmental Protection
Legislature of the Virgin Islands
Capital Building, Charlotte Amalie
St. Thomas, Virgin Islands 00804

Department of the Navy
Naval Radiation Safety Committee
Chief of Naval Operations (N-45)
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*see previous concurrence

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NRC REGULATION OF USE OF NRC LICENSED MATERIAL

The NRC issues Master Materials Licenses to federal organizations which have strong centrally controlled radiation control programs. Currently, the U. S. Air Force and the U. S. Navy possess Master Materials Licenses.

The NRC has issued the Department of the Navy a Master Materials License in October 1987. This license authorizes the Navy, through the Naval Radiation Safety Committee, to oversee the use of licensed material (including depleted uranium) by Navy and Marine commands. The license authorizes the Navy to perform certain of the functions normally done by NRC staff, such as: issuing permits (similar to NRC licenses) to commands; performing inspections of permit holders; taking enforcement actions against commands for violation of NRC requirements; and responding to events. Under this process, the Navy, rather than the NRC, takes enforcement action against permit holders for violations that the Navy identifies and corrects if the violations are not of high safety significance. The Navy is required to issue permits, inspect, and issue enforcement in a manner that is comparable to the NRC's procedures.

The NRC monitors the Navy's implementation of its program through: independent inspections, by NRC inspectors, of Naval activities; accompaniments of Navy inspectors by NRC inspectors; independently performing an annual, in-depth review of the Navy's program; and by attending each of the Navy's quarterly Radiation Safety Committee meetings.

It should be noted that the Navy has issued a violation to the command responsible for the unauthorized firing of the depleted uranium ammunition at Vieques. Whether the NRC will also take action will be considered after the Navy has completed their corrective actions.

CHRONOLOGY OF KEY EVENTS AND ACTIONS

The following is a chronology of key events and actions taken by the Navy and the NRC in response to the firing of depleted uranium armor piercing ammunition on Vieques Island, Puerto Rico.

- On February 19, 1999, two U. S. Marine Corps aircraft fired 263 rounds of depleted uranium ammunition during a training exercise at the Live Impact Area of the Vieques Island firing range. The ammunition consisted of 25 millimeter, armor piercing rounds, containing 148 grams of depleted uranium.
- On March 5, 1999, the Navy's Radiation Safety Committee's Executive Secretary reported the event to the NRC.
- The NRC staff evaluated the incident and determined that depleted uranium ammunition does not pose an immediate safety concern. Because the radioactivity is low, occasional direct exposure of the protestors does not pose a significant radiological hazard.
- The Navy's Radiation Safety Committee reported to the NRC in March 1999, that they had identified this incident as a violation of the requirements of the Navy's radioactive materials permit which specifies that depleted uranium ammunition is to be used strictly during combat or approved tests and are prohibited from peacetime or training use.
- Between March 10 and 19, 1999, a team of Navy health physics personnel located and removed 57 expended rounds of depleted uranium ammunition from the Vieques Island range. Radiological surveys identified some depleted uranium soil contamination which was also removed. The Navy found that most recovered rounds were buried six to eight inches in the soil. The Navy measured a dose rate of 1.2 millirem per hour six inches from a round. Radiation levels at the surface of the rounds remaining on the range, which were not readily accessible, would be higher than the measured level. Recovery activities were discontinued because of the hazards from unexploded ammunition located in areas covered in vegetation where additional surveys and recovery activities need to be performed.
- On April 1, 1999, the Navy provided the NRC with a written initial report of the incident. In that report, the Navy's Radiation Safety Committee provided findings of their preliminary investigation into the cause of the incident, that uncovered a failure by individuals to follow written procedures for the issuance and use of ammunition.
- On June 1, 1999, the Navy provided the NRC with a written follow up report of the incident. In this report, the Navy confirmed their previous findings with respect to the cause of the incident, and also described their planned and implemented corrective actions. In addition to the actual recovery of the depleted uranium ammunition from Vieques, the following additional corrective actions were described: the Marine Corps

issued a naval message to all ammunition activities reemphasizing the prohibition of firing of the 25 millimeter and 120 millimeter depleted uranium rounds for peacetime and training use; applicable Navy and Marine Corps instructions were revised to include the specific use restrictions for depleted uranium ammunition; a checklist was developed and forwarded for use by all depleted uranium ammunition storage facilities; and; the Marine Corps has initiated inclusion of specific depleted uranium information in its Ordnance Occupational (training) Courses.

- On June 2, 1999, Luis A. Reyes, Regional Administrator, NRC Region II, attended a Naval Radiation Safety Committee meeting. During this meeting, the Navy described the circumstances surrounding the expenditure of the depleted uranium ammunition on Vieques. The Navy also described their initial recovery activities, their plans to resume the recovery activities in August 1999, and their corrective actions.
- On June 29, 1999, in a letter to Senator Adlah "Foncie" Donastorg of the Legislature of the Virgin Islands, from then NRC Chairman Shirley Jackson, the NRC committed to provide Senator Donastorg with the results of our independent inspection and review of the Navy's corrective actions. Since the Navy has been unable to continue their recovery activities safely, including the removal of unexploded ammunition, our inspection has not been performed.
- The Navy had planned to resume recovery activities in August 1999, but in the interim, unauthorized individuals began camping on the firing range and, as a result, the team was unable to resume their work to remove the remaining depleted uranium.
- On December 6, 1999, Douglas M. Collins, Director, Division of Nuclear Materials Safety, NRC Region II, attended a Naval Radiation Safety Committee meeting. During this meeting, the Navy discussed preparations for the cleanup. Mr. Collins discussed the need to promptly remove the remaining depleted uranium once the area was safe from potentially unexploded ammunition. Mr. Collins noted that the NRC understood that the Navy could not safely check for or remove unexploded ammunition at the time because of the presence of members of the public in the area.
- On January 19, 2000, the Navy provided the NRC a proposed plan for the recovery of the remaining depleted uranium and cleanup of residual contamination. The NRC is currently reviewing the Navy's plan for compliance with current NRC criteria. If it is determined that this plan meets NRC criteria, the Navy will be informed of this conclusion. If it does not meet our criteria, we will ensure that the plan is revised to meet our criteria. This plan will serve as the basis for the NRC's inspection of the Navy's resumption of the depleted uranium recovery activities. The NRC's inspection will be designed to ensure that the Navy's recovery activities are carried out safely and in accordance with the NRC-accepted plan.