



Department of Energy  
Germantown, MD 20874-1290

October 8, 1999

The Honorable Phillip Muller  
Minister of Foreign Affairs and Trade  
Republic of the Marshall Islands  
Majuro, Marshall Islands 96960

Dear Minister Muller:

I am writing you regarding tracer materials employed in the 67 atmospheric nuclear tests conducted on or near the Marshall Islands from 1946 to 1958.

This letter follows up the Department of Energy's commitment to provide you a list of the tracer materials and the cumulative quantities used in the tests.

The enclosed letter from then Assistant Secretary of Defense Programs, Victor H. Reis, contains a table of the types and cumulative quantities of tracer materials used.

I trust this information is responsive to your needs.

Sincerely,

Paul J. Seligman, M.D., M.P.H.  
Deputy Assistant Secretary  
for Health Studies

Enclosure

cc w/enclosure:  
Ambassador Banny de Brum,  
RMI Embassy  
Ambassador Joan Plaisted,  
American Embassy  
The Honorable Don Young,  
House Resources Committee  
The Honorable George Miller,  
House Resources Committee  
Emil Skodon, DOS  
Daniel Aranza, DOI



# memorandum

DATE: JAN 17 1995

REPLY TO  
ATTN OF: OP-12:KJAdney:3-3993

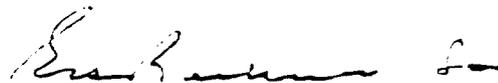
SUBJECT: REQUEST FOR INFORMATION ON NUCLEAR TEST TRACER MATERIALS

TO: Assistant Secretary for Environment, Safety and Health, EH-1

This is in response to your memorandum of November 4, 1994, concerning an inquiry from the Ambassador of the Republic of the Marshall Islands. Your memorandum requested an expedited effort from Defense Programs to identify tracer materials that were employed in atmospheric nuclear tests that are of interest to the Marshall Islands Government. The information was derived from significant volumes of records in archives at locations that included our national laboratories, and has required considerable time and effort to prepare. Consistent with data exchanges and discussions among our staffs, the attached table is a compilation of cumulative quantities of tracer materials used on the 67 atmospheric nuclear tests conducted on or near the Marshall Islands from 1946 to 1958.

These tracer materials were originally included in or in the vicinity of the nuclear explosives used in these tests to obtain nuclear weapon performance information by analysis of the mixed debris resulting from the detonation. The Office of Declassification has confirmed that this listing of cumulative quantities is unclassified. To release the quantities for specific tests as unclassified information would require a technically difficult and rather lengthy analysis to determine that it is not possible to obtain classified nuclear weapon performance information from the data. We have not embarked on such a process since, even if it were determined that some of the test-specific data cannot reveal classified weapons information, it is unlikely that the test-specific data would be useful to the requestor. Further, the cumulative data in the table represent an overestimate rather than underestimate of the materials involved and, thus, would not minimize the results of any analysis of health impacts.

Please contact me or your staff may contact Kenneth Adney of the Office of Development and Testing on 903-3993 if you have any questions.

  
Victor H. Reis  
Assistant Secretary  
for Defense Programs

Attachment:  
Information on Atmospheric Tests  
Conducted on the Marshall Islands

External Tracer Materials  
Included on the 67 Atmospheric Nuclear Tests  
Conducted On or Near the Marshall Islands  
from 1946 to 1958

<u>Material</u>	<u>Quantity (gm)</u>
Sulfur	727,000
Arsenic	75.7
Yttrium	236
Rhodium	<200
Indium	2,660
Tantalum	88.3
Tungsten	3,100
Gold	500
Thallium	155,000
Polonium-210	1.09
Thorium-238	0.0023
Thorium-230	1,494
Thorium-232	1,080,000
Uranium-233	1,094
Uranium-238	66,980,000
Americium-241	0.29
Curium-242	1.8