

**Testimony of Matthew B. Moury,
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U.S. Department of Energy
For a Hearing on U.S. Nuclear Legacy in the Marshall Islands
Before The Committee on Natural Resources
Subcommittee on Oversight and Investigations
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Introduction

Chairperson Porter, Ranking Member Gosar, and members of the subcommittee, thank you for the opportunity to testify before you today. My name is Matthew Moury, and I am the Department of Energy (DOE) Associate Under Secretary for Environment, Health, Safety and Security. Through the Office of Domestic and International Health Studies, I am responsible for overseeing health and environmental activities conducted on behalf of DOE in and for the Republic of the Marshall Islands (RMI) and its inhabitants.

The DOE Marshall Islands Program was established in 1977 by the Energy Research and Development Administration, the predecessor agency to DOE. The program is part of the U.S. response to the legacy of nuclear weapons testing in the Marshall Islands from 1946 to 1958. The purpose of the DOE Marshall Islands Program is to monitor and provide for the medical treatment of those Marshallese people who were directly or indirectly affected by ionizing radiation from historic U.S. nuclear weapons testing in what is now the Republic of the Marshall Islands, characterize the level and distribution of fallout contamination in the environment, monitor radiation exposures to resettled and resettling Marshallese, and provide recommendations for minimizing exposures and remediation efforts, as needed.

There are four (4) northern “nuclear affected atolls” included in the DOE Marshall Islands Program — Bikini, Enewetak, Rongelap, and Utrik. The inhabitants of Bikini and Enewetak atolls, where the nuclear testing occurred, had been relocated prior to the tests and were not exposed to local fallout. However, the inhabitants of Rongelap and Utrik atolls were not relocated prior to the 1954 Castle Bravo weapons test and, due to shifting wind patterns, were exposed to local fallout from the event.

The United States has recognized the effects of its testing and has accepted and acted on its responsibility to the people of the Marshall Islands, as reflected in the Compact of Free Association and the subsidiary agreement referred to in Section 177 of the Compact which included a “full settlement of all claims, past, present and future” arising from or in any way related to the U.S. testing program. Congress has subsequently authorized and appropriated additional programs and payments.

There are three main components of the DOE Marshall Islands Program: the Special Medical Care Program; environmental radiological monitoring; and the Runit Dome containment structure assessment and monitoring. DOE coordinates all activities in the Marshall Islands with the U.S. Departments of State and the Interior.

Special Medical Care Program

The Special Medical Care Program provides annual and follow-up comprehensive cancer screening examinations and treatment for people from Rongelap and Utrik atolls who were exposed to radioactive fallout from the Castle Bravo nuclear weapons test. Activities are conducted at local community-based medical facilities and at U.S. locations when necessary. All expenses associated with the examinations and treatment are covered by DOE, including, travel and per diem for patients and their escorts, medications, and medical supplies. There were 253

people on the Rongelap and Utrik atolls during the Castle Bravo test in 1954. As of October 2021, there are 77 remaining participants in this program.

Environmental Radiological Monitoring Program

The goal of the Environmental Monitoring Program is to develop scientific data on the behavior of key radionuclides in the environment. The Environmental Monitoring Program characterizes the extent of radioactive exposures within the population and the extent of radiological contamination environment of the RMI. Together, the individual and environmental radiological monitoring programs provide high quality measurement data and reliable dose assessments used by DOE to build a strong technical and scientific foundation to assist in recommending strategies for reducing uptake of radioactive materials and provide resettlement support to the residents of the four affected atolls. The program includes monitoring of individuals for exposure to radioactive cesium and plutonium as well as large-scale radiological surveys of food crops, soil, groundwater, air, lagoon waters, marine biota, fish, animals, and birds to determine the fate and transport of fallout radionuclides in the environment and to verify the effects of remediation programs.

DOE has implemented a series of strategic initiatives to address long-term radiological surveillance in the RMI. As part of these efforts, local atoll communities are engaged in developing shared responsibilities for implementing radiation surveillance monitoring programs for resettled and resettling populations in the northern RMI. These programs are used to accurately track and assess doses delivered to Marshallese from exposure to residual fallout contamination in the local environment. Whole body counting facilities have been established at three separate locations in the RMI. These facilities are operated and maintained by Marshallese technicians with scientists from DOE providing on-going technical support services.

Runit Dome Containment Structure Assessment and Monitoring

Public Law (P.L.) 112-149, *Insular Areas Act of 2011*, enacted in July 2012, requires DOE to periodically conduct a visual study of the exterior of the Runit Island containment structure (Runit Dome) and implement a radiochemical analysis monitoring program of the groundwater in and around the structure. The U.S. Department of the Interior provides partial funding for DOE's Runit Island activities. The containment structure, built in the late 1970s, contains over 100,000 cubic yards of radioactively contaminated soil and debris that were encapsulated in concrete (waste pile) inside an unlined nuclear weapons test crater, the Cactus Crater, on the north end of Runit Island. Pursuant to the terms of the Compact of Free Association, the Republic of the Marshall Islands bears full responsibility for maintaining and monitoring the dome and Runit Island.

Beginning in May 2013, DOE worked in close coordination with the RMI to re-establish groundwater monitoring boreholes created by previous National Academy of Sciences researchers both on the dome and in the surrounding area. From 2013 to 2018, multiple missions were conducted to collect water samples for radiochemical analysis and modeling, using the re-established boreholes, with an initial report published following the 2013 sampling work. During this time, multiple missions also assessed the condition of the dome.

In 2020, DOE provided a report to Congress on the status of the Runit Dome, as mandated in Section 364 of P.L. 116-92, *National Defense Authorization Act for Fiscal Year 2020*. The conclusions reached by DOE in this report include:

- The Runit Dome is not in any immediate danger of collapse or failure, and the exterior concrete covering the containment structure is still serving its intended purpose, effectively reducing the wind and water erosion of the waste pile below.
- The main risk posed by the dome will be derived from the flow of contaminated groundwater from beneath the containment structure into the local marine environment. DOE is in the process of establishing a groundwater radiochemical analysis program designed to provide scientifically substantiated data that can be used to determine what, if any, effects the dome contents are having, or will have, on the surrounding environment now and in the future.
- Individual radiological protection monitoring data collected from the Department's Marshall Islands Program indicate radiation dose rates to individuals on Enewetak from internal exposure to fallout radionuclides are well below international standards for radiological protection of the public.
- The most notable and immediate impact of rising sea levels on the Cactus Crater containment structure is associated with the physical effects of storm surge and wave-driven flooding. DOE's proposed groundwater radiochemical analysis program is designed to provide some understanding of possible effects of forcing events, such as storm surge, on changes in groundwater quality. It is anticipated that any measured or modeled effects of storm events may help provide a better understanding of the long-term consequences of sea level rise on the mass-transport of dome-derived radionuclides into the environment.

Following the 2018 sampling and inspection missions, DOE determined that a more robust network of groundwater monitoring wells would improve our analysis capability and began planning for them. The proposal was developed in 2019 and DOI provided \$1.6 million dollars to DOE for this effort. The process has been stymied by restrictions posed by the COVID-19 pandemic, but planning continues, with the expectation to conduct this work in 2022 in furtherance of DOE's responsibility to advise the Marshall Islands government efforts with regard to Runit Dome.

Potential Actions

Public Law 112-149, Section 2, provides funding for groundwater monitoring through the Secretary of Interior, and requires the Secretary of the Interior to "make available to the Department of Energy, Marshall Islands Program, from funds available for the Technical Assistance Program of the Office of Insular Affairs, the amounts necessary to conduct the radiochemical analysis of groundwater[...]" Radiochemical analysis of groundwater is a small aspect of the work necessary to complete the groundwater monitoring effort. Additional work is necessary to complete the groundwater monitoring at Runit Dome.

Document Translation

Based on our earlier interactions with your staff, we understand translating DOE documents from English into Marshallese is of interest. As we noted before, DOE has not initiated a large-scale program to translate Marshall Islands Program documents into Marshallese. In the interest of communication and transparency, we have undertaken to translate some presentations from previous meetings and an informational presentation on the Runit Dome into Marshallese. We have also discussed translating the abstracts of some papers, and posters with key messaging. This is accomplished as a collaborative effort between the program science director and two bilingual employees of International Outreach Services (IOS), our non-profit collaborative agreement partner. It is worthwhile noting that the RMI has two official languages, English and Marshallese (with two recognized dialects)

Conclusion

The Department is in continual communication and coordination with the Government of and people in the RMI regarding activities associated with the DOE Marshall Islands Program. And DOE remains committed to both fulfilling the United States' obligations to the RMI as set forth in international agreements between the two governments, including those relating to the U.S. nuclear testing program, and to pursuing our additional statutory obligations relative to the RMI. My management team and I are personally committed to the continued improvement and success of this program, and we are prepared to commence the next phases of the program that have been impacted by the pandemic when travel restrictions are lifted by the RMI.