

**Statement of Rhea Moss-Christian**  
**Chairperson of the Marshall Islands National Nuclear Commission**  
**Before the House Committee on Natural Resources**  
**Subcommittee on Oversight & Investigations**  
**Regarding the U.S. Nuclear Legacy in the Marshall Islands**

**October 21, 2021**

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Thank you, Madam Chair and members of the Subcommittee. It is an honor to testify before you in this virtual hearing, today. I appreciate this opportunity to share my thoughts and experiences as a Marshallese-American addressing outstanding U.S. nuclear testing issues in the Marshall Islands, and as someone who carries the trauma of the nuclear tests through my mother.

I first learned about the nuclear tests as a child, listening to my mother's memories of when she was 10 years old and heard the loud blast of the 1954 Castle Bravo test at Bikini Atoll, some 300 miles away from her home on Ailuk Atoll. She remembered the U.S. military ship coming ashore a few days later to advise the residents not to eat the local food or drink any water that had already been collected. In 2012, my mother passed away from stomach cancer at the age of 67. Through her absence and the experience that she shared with me, I continue to learn about the scope and extent of damages caused not only by that memorable bomb test on March 1, 1954, but also of the 67 nuclear weapon detonations and their impact on all Marshallese people.

I am among the new generation of Marshallese representatives, speaking to a new generation of U.S. lawmakers, in a new generation of global politics, discussing the impact that the U.S. nuclear weapons testing program in the Marshall Islands *still* has on our lives, **75** years since the first atomic bomb test at Bikini Atoll in 1946. We need action; I am here to state the case for that and for a fuller measure of cooperation, trust, and justice than has characterized the past three-quarters of a century.

**NATIONWIDE IMPACT**

The 67 nuclear tests conducted by the U.S. between 1946 and 1958 resulted in fallout that contaminated all atolls and islands of the Marshall Islands to varying degrees. To this day, though, the only individuals considered by the U.S. as exposed were those

who were physically present on Rongelap, Ailinginae, or Utrök atolls at the time of the Bravo test on March 1, 1954. Following their evacuation after the Bravo event, the people of Rongelap and Utrök were unknowingly enrolled by the U.S. Government in a top-secret medical experimentation program known as “Project 4.1” to study the effects of radiation exposure on human beings. This study includes control populations whose bodies were similarly used by U.S. medical researchers to harvest bone marrow, teeth, organs, and blood to better understand the capabilities of U.S. weapons of mass destruction.

The current DOE healthcare program to monitor Marshallese communities exposed to radiation does not include communities like Enewetak, whom this committee is looking at particularly closely because of the challenges created by managing a nuclear waste facility on that atoll. The inadequacy of the current DOE medical program is acutely evident in the fact that the Enewetak people -- a community resettled next to a nuclear waste storage facility and interacting with a lagoon where 99% of contaminants are still free-flowing and there is unknown biological and chemical exposures in addition to radiation exposure -- are not eligible to participate. DOE's healthcare program prioritizes long-term healthcare studies of communities put in a U.S. medical program to study the impacts of radiation on human beings, in Project 4.1, but it excludes large swaths of our population, communities like Enewetak or Ailuk, that are also in need of health monitoring and care.

In the case of Ailuk, for example, a 1995 report by the White House Advisory Committee on Human Radiation Experiments concluded that by the afternoon of March 4, 1954 two U.S. destroyer ships were available to evacuate the 401 people on Ailuk following significant exposure to fallout from the Bravo event. Despite the fact that the people of Ailuk received radiation doses similar to those prompting the evacuation of Utrök, and that the Utrök community continues to receive U.S.-provided healthcare, U.S. Government officials decided that the effort to evacuate the larger Ailuk community was too much of a burden. It pains me, after losing my mother, to know that if the U.S. had evacuated the Ailuk community, the peoples' exposures would have been reduced by a third over their lifetime according to Thomas Kunkle of the Los Alamos National Laboratory.

Declassified U.S. documents in 1994 showed that measurements made by the AEC's<sup>1</sup> Health and Safety Laboratory established that significant doses were monitored throughout the Marshall Islands following not only the Bravo test but also after each of the other five tests conducted during Operation Castle in 1954. The results of a comprehensive assessment of exposure in the Marshall Islands indicated that the

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<sup>1</sup> Breslin, A.J. and Melvin Cassidy, 1955. Radioactive Debris from Operation Castle: Islands of the Mid-Pacific, No. NY4623. United States Atomic Energy Commission.

average individual external radiation dose to populations at every atoll in the Marshall Islands exceeded the average exposures of those individuals living in the six counties closest to the Nevada Test Site during the respective testing periods.

For the communities of Rongelap and Utrōk exposed to high levels of radiation from one of the 67 detonations, the U.S. Government evacuated them and enrolled those two communities in a top secret biomedical research program to study the impacts of radiation on human beings together with control populations for both communities. Enrollment in current day medical programs remains tied to evacuation policies after the Bravo event, rather than to all communities exposed to fallout from the 67 detonations. Communities, like Ailuk, who received levels of radiation warranting evacuation, as well as communities across the Marshall Islands exposed to cumulative fallout from compounding detonations over 12 years have no U.S.-provided healthcare. What might have been different if my mother was evacuated after Bravo, or given access to healthcare and screening for radiation-related illnesses?

The failure to evacuate communities during the testing program and monitor their continuing daily activities while living in contaminated environments is measurable in excess cancers. A 2004 report<sup>2</sup> prepared by the U.S. National Cancer Institute “Estimation of the Baseline Number of Cancers Among Marshallese and the Number of Cancers Attributable to Exposure to Fallout from Nuclear Weapons Testing Conducted in the Marshall Islands” stated, “(w)e estimate that the nuclear testing program in the Marshall Islands will cause about 500 additional cancer cases among Marshallese exposed during the years 1946-1958, about a 9% increase over the number of cancers expected in the absence of exposure to regional fallout. More than 85% of those radiation-related cases would likely occur among those exposed in 1954 on the atolls of Rongelap, Ailinginae, Ailuk, Mejit, Likiep, Wotho, Wotje, and possibly Ujelang”.

It is critical to note for this Subcommittee, that although the U.S. federal government’s principal agency for cancer research and training determines an excess of 500 cancers due to U.S. nuclear testing, there is no cancer care facility or even an oncologist in the Marshall Islands today. The burden to care for these 500 cancers is on the RMI Government and the families; besides the considerable expense of treating the cancers themselves, there is the significant additional expense that patients have to leave the country to receive care, or they have no chance for treatment or survival. This is

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<sup>2</sup> Division of Cancer Epidemiology and Genetics, National Cancer Institute, National Institutes of Health, Department of Health and Human Services. *Estimation of the Baseline Number of Cancers Among Marshallese and the Number of Cancers Attributable to Exposure to Fallout from Nuclear Weapons Testing Conducted in the Marshall Islands*. 2004.

compounded by the emotional burden of leaving all that is familiar and comfortable at home, during a time when family support is most needed.

## **SAFETY AND SECURITY**

Today, the safety and security of the Marshall Islands is under threat. The U.S. nuclear testing program aimed to enhance the security of the United States and its allies, but for people in the Marshall Islands, it continues to create insecurity. Many of our islands remain unsafe for resettlement and are in need of remediation so displaced communities can reconnect with their ancestral lands. Many Marshallese people are facing health challenges that we are ill-equipped to address, illnesses that are connected to the nuclear testing program. And we are at risk of our future generations, like my daughter's, losing the knowledge and information about this part of their history; that loss would mean that they would not then have the capacity to address the problems they will inherit. The U.S. nuclear weapons testing program causes intergenerational challenges that our leaders have been asking Congress to address for decades.

The compensation awards that the Nuclear Claims Tribunal issued to these four atolls remain unpaid, or partially paid, along with the hundreds of personal injury awards to many Marshallese, most of whom passed away without receiving compensation for their health outcomes connected to U.S. activities. The Tribunal was established by mutual agreement between the Marshall Islands and the U.S. and it implemented a transparent, robust legal process for adjudicating nuclear damage claims. The scale of damages went well beyond what anyone anticipated based on the information available at the time, and the initial funding provided by Congress for the Tribunal to properly fulfil its mandate was manifestly inadequate. The initial funding of \$150 million was invested with U.S. assistance and failed to meet expected financial performance goals, which led to less money available for awards than originally planned by Congress.

I want to anchor my testimony in the dozens of statements and testimonies of Marshallese leaders who came before me, who shared their own personal experiences, and those of our Marshallese communities who were grappling with the aftereffects of nuclear testing. Many of those former testimonies were made by the leaders of Bikini, Enewetak, Rongelap, and Utrök atolls, whose communities experienced the brunt of the harm from the nuclear tests. Those leaders could not have been more clear about the scope of damages caused by nuclear tests to our islands and our health, and the importance of strengthening dialogue and action between our two countries to address ongoing damages and injuries.

The past testimonies by Marshallese leaders effectively outline just how ill-equipped we *still* are to address the damages on our own, and the importance of ensuring that communities are properly compensated for the damages to their life and land. If Madam Chair will allow, I would like to submit for the record of this meeting copies of some of those past testimonies.

Equally important to the Marshallese testimonies are the past statements of U.S. officials, who sounded the alarm very early on and called for more care to be taken in protecting the Marshallese people from the harms of the nuclear tests.

Even before the first tests in the Marshall Islands, at a meeting of the U.S. Senate on March 29, 1946, Senator James Huffman of Ohio called for a cancellation of President Truman's plans to proceed with a series of atomic tests at Bikini Atoll in the Marshall Islands, calling the tests "useless and destructive experiments".

Three months later on July 1, 1946, the U.S. conducted its first of two nuclear weapons tests at Bikini Atoll; the second was on July 25, 1946.

A year later on July 18, 1947, the U.S. secured an agreement with the United Nations to govern the Marshall Islands and the neighboring islands of Micronesia as the Trust Territory of the Pacific Islands. Five days after that, the U.S. Atomic Energy Commission established the Pacific Proving Grounds, which included the Marshall Islands. The 67 U.S. nuclear tests in the Marshall Islands represent less than 7 percent of all U.S. tests but almost 60% of the total explosive force of all U.S. atomic tests, which totalled roughly 200 megatons. This means that the average nuclear test in the Marshall Islands was 15 to 20 times more powerful than the average of U.S. tests elsewhere. I urge you to keep this hugely disproportionate explosive burden in mind in weighing our appeal for a fuller measure of consideration and justice than we have received so far.

Among those tests was the 15 megaton Castle Bravo shot in 1954, the most powerful nuclear device ever detonated by the U.S. that resulted in heavy radioactive fallout on nearby islands, including Rongelap, Utrök, Mejit, Likiep, and Ailuk atolls. Based on exposure levels, the U.S. Government should have evacuated my mother and other communities from all of these atolls to reduce their health risks. The elevated rates of cancer and thyroid today are the aftermath of failed action during the testing program that endure.

Two months after the Castle Bravo test, a group of Marshallese leaders submitted a petition to the United Nations appealing for a halt to future tests in the Marshall Islands because of the harmful impacts to Marshallese people from those tests and the continued displacement of people from their home islands. At a June 1954 Senate proceeding, Senator Mike Mansfield spoke in support of the petition from the Marshall

Islands, saying *“This petition from the Marshall Islands should receive utmost consideration and concern. During World War II the Marshall Islands were controlled by the Japanese and were developed into military bases and the local peoples were subjected to a great deal of hardship. The United States is now the governing body under the United Nations, but the peoples of these islands are still being moved about because of the atom- and hydrogen-bomb tests with the islands.”*

Senator Mansfield went on to say, *“...the natives of the Marshall Islands are very much concerned over the increasing number of people who are removed from their land. To be sure, these people will be reimbursed for any financial loss or hardship, but that is not enough. The land is the very life of the people and they want to be reestablished in their original habitat...we must be extremely cautious when it comes to experimenting with weapons that involve the safety of human lives and their homes.”*

After Senator Mansfield’s statement, the U.S. proceeded to test an additional 50 surface and air atomic weapons at Bikini and Enewetak atolls from **1956 to 1958**, with a combined energy yield of over 28 megatons. The pursuit of security through the development of nuclear weapons was the clear goal of activities in the Marshall Islands, but as Senator Mansfield predicted, at the expense of the security of the Marshallese people.

The people of the Marshall Islands did not benefit from the safety and security that the United States sought from its nuclear tests in the Marshall Islands. Instead, the continued displacement of people from their ancestral lands results in an enduring sense of insecurity for those communities who have been forced to adapt to new lifestyles in new locations. Senator Mansfield expressed it well when he said that “land is the very life of the people”, as it connects us with our identities as Marshallese people. Separation from land is a separation from home, and it is an example of ongoing harms caused by the nuclear testing program.

Likewise, many Marshallese people face illnesses that are either directly or indirectly related to the nuclear tests. In addition to illnesses caused by radiation exposure, relocation and displacement is a significant contributor to overall individual health. Cancer, in particular, is a threat to our health security and we are also health care insecure because we do not have the ability to treat cancer patients in the Marshall Islands. Given everything we know about the deleterious impacts of radiation on human health, the Marshall Islands should have the highest standard of health care facilities, and especially cancer care facilities; the RMI deserves equity. That we do not have it, is another threat to our future security and safety. In addition to the direct health impacts of radiation, there have also been immense stresses created by the loss of traditional economic ways and the associated damage to the culture, as well as by continued

displacement from their homes of many Marshallese who still cannot return home safely. As Rongelap survivor Nerje Joseph has said so poignantly: “We had a oneness when we lived on Rongelap... We worked together, we ate together, we played together. That has been lost.”

## **DOCUMENTATION AND RESEARCH**

A significant amount of documentation has been generated by the U.S. nuclear testing program, yet we are still missing key information about the scale of U.S. activities in our islands. Just a few examples include (1) exposure to beryllium, a highly toxic substance that causes a chronic inflammatory reaction known as chronic beryllium disease and increases cancer risk, resulting from biological and chemical weapons tests at Enewetak Atoll; (2) soil containing radionuclides that was brought to Enewetak Atoll from the Nevada test site, and (3) fallout information for all 67 nuclear tests that were carried out in the Marshall Islands. As the late Marshallese leader Tony deBrum said, “there can be no closure without full disclosure.”

In addition to information requirements, we ask for greater transparency from the DOE on their environmental monitoring activities. We acknowledge and appreciate DOE’s efforts over the years, but more consultation with Marshallese communities is needed. For example, DOE does not consult closely with members of the different atoll communities whose environment they are monitoring. Hiring one or two Marshallese to help with logistical arrangements is not enough.

DOE misses out on important and necessary resources by not involving Marshallese communities in their research. Marshallese people are intimately familiar with the surrounding environment and have deep knowledge that cannot be learned in a classroom. More importantly, Marshallese people live with the impacts of nuclear testing, so they know and understand the impacts based on their actual experiences. That knowledge is not always in sync with DOE’s conclusions and that contributes to the lack of trust and confidence in DOE’s work. Equally important is the need for DOE to transfer knowledge and build local capacity in carrying out environmental research so that communities can supplement their understanding of how radiation is impacting their lives.

In 2018, the RMI President and Cabinet adopted a research protocol for research related to the nuclear legacy that requires full consent and community participation in research. We request this committee's assistance in requiring DOE to abide by this protocol and to not conduct research as if the RMI is still a trust territory of the United States.

Today in 2021, the RMI is no closer to managing the health impacts of nuclear tests than it was in 1954; that is our legacy of insecurity, and an area that greatly needs the attention and action of this committee. We seek a fuller, more equal partnership with the DOE in which both sides contribute their full measure of expertise and experience and learn from each other to contribute to the best results in protecting the present and future generations of Marshallese people.

In the Marshall Islands there is a deep sense of distrust for DOE's scope and methods of work. That legacy of mistrust reflects that DOE's work is not seen as meeting the needs of impacted communities, but of advancing the scientific and political interests of the US. The roots of this distrust are deep because we have been damaged by actions and failures to act -- with the failure to evacuate several irradiated atolls being a prime example of the latter. The lack of health care to the people who suffered needless additional radiation doses has meant that the original damage has been compounded and the violence of the nuclear era continues when people cannot access healthcare or ancestral islands. The Runit dome provides another example.

Very recently, we learned that less than 1% of the plutonium and associated transuranic radionuclides at Enewetak Atoll are contained inside the Runit Dome, which is another insecure and unsafe facility in our islands relative to what is in the Enewetak lagoon. This means that more than 99% of a highly dangerous radionuclide is in the lagoon, which is the heart of the atoll. Additional amounts of radionuclides, including plutonium, are in the topsoil of the inhabited islands themselves. This also means that the clean-up effort of the 1970's did not contain the hazardous materials as the US maintained throughout the termination of the trust territory and the negotiations of the Compact.

I should also note regarding the Runit dome that, while the dome has a concrete cap, the U.S. Government effort to contain waste included dumping highly radioactive materials into an unlined pit. We are continuously told that the Dome poses no threat to the nearby Enewetak community, yet some critical information was only recently revealed, such as additional burial sites and crypts that contain plutonium. In some cases, information remains classified, such as the reports about biological and chemical weapons testing. I implore this committee to help rectify this arrangement as the RMI does not have the ability to change the way DOE operates in our country. We hope that with your direction and leadership, DOE will work more openly and collaboratively with us to establish the trust that would benefit both of our nations.

In addition, there are gaps in DOE's knowledge about the cumulative impacts that the radiation in the Dome and surrounding environment have on the Enewetak community. These gaps were highlighted in DOE's June 2020 report on the status of the Runit



Dome. When we are faced with uncertainties as important as these, it creates a strong feeling of distrust in U.S. science within our communities.

These are concerns that people have today, and they are hardly different from the ones expressed in the Marshall Islands' June 1954 petition to the United Nations, or the dozens of Marshallese testimonies to Congress that followed, or the 1945 and 1946 statements of United States Congressmen about the safety of the nuclear tests on human lives. The need for independent assessment and a vigorous peer review process is needed now more than ever, to help all of us move forward.

## **THE RMI NATIONAL NUCLEAR COMMISSION AND NUCLEAR CLAIMS TRIBUNAL**

The Marshall Islands Government established the National Nuclear Commission in 2017 in recognition of the immense challenges we continue to face in addressing the legacy of U.S. nuclear testing. The Commission's mandate is to pursue nuclear justice on behalf of the Marshallese people, and includes the need to preserve records from all past nuclear tests and their effects in the Marshall Islands, so that future generations will possess the required knowledge and understanding to deal with the impacts.

The Nuclear Claims Tribunal remains open to receive any claims of personal injury and property damage caused by the nuclear tests. Several claims remain pending, as well, dependent on Congress' replenishment of the Tribunal Fund. The last compensation award and initial payment were made in December 2008, leaving over \$23 million in unpaid personal injury awards and over \$2 billion in unpaid property damage awards, making it clear that by the end of 2008, the Tribunal would no longer be able to fulfil its mandate arising out of the Section 177 Agreement, "to render final determination upon all claims past, present, and future....which are based on, arise out of, or are in any way related to the Nuclear Testing Program." In this context, please recall that both the explosive force and the radiation doses suffered by the Marshall Islands were greater than the Nevada Test Site downwinders, but the awards for the Marshallese have been much lower.

There is still so much work to do and through this Subcommittee's efforts, there is a chance for progress, but this requires an acknowledgment of the full scope of damages and injuries by the US Government. To this day there has never been an apology from the US Government for the ongoing hardships Marshallese endure. The Nuclear Claims Tribunal is the mutually-agreed established forum for addressing the harms of the U.S. nuclear testing program. People who have been granted awards deserve to get them in full; others, who are in process or who may apply in the future, deserve a chance to be heard and have their claims fairly adjudicated. The Runit Dome and all that it represents about radiation still present in our environment requires closer attention and a

reassessment and revision of DOE's mandate. People require health care beyond our means to provide in the RMI; they deserve a U.S. standard of health care to treat illnesses linked to U.S. activities on our islands. And people need the tools and knowledge to be able to participate and contribute to research that seeks to enhance our understanding of how radiation is impacting our lives and livelihoods. These areas are all outlined in greater detail in our National Strategy for Nuclear Justice, which acknowledges all communities in the RMI that have been impacted by nuclear testing and their immediate needs, many of which have been ignored and excluded by the U.S. to this day.

I would like to request that the record of this hearing be kept open for an appropriate period of time to allow for Marshallese community members to have the opportunity to provide their views and statements about the nuclear legacy. Community voices are a vital contribution to our nuclear justice efforts and the opportunity that this hearing provides for us to strengthen our bilateral relationship is invaluable.

Let me assure you, as the Chair of the National Nuclear Commission, that we stand ready to do our part to create the fuller measure of cooperation with the DOE and the rest of the U.S. government that we need for the tasks ahead. Reciprocity is, of course, essential. I hope that your leadership and foresight will grant it to us in full measure.

Thank you Madam Chair and members of the Subcommittee for your time.