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ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

September 14, 1954

Honorable W. Sterling Cole
Chairman, Joint Committee
on Atomic Energy
Congress of the United States

Dear Mr. Cole:

I have received your letter of August 18, 1954, to Chairman Strauss, wherein you request copies of written material furnished by the Atomic Energy Commission to the Department of State for transmittal to the United Nations relating to the March 1 incident in the Marshall Islands. Your letter suggests that previously unpublished information on radiation levels was furnished the United Nations. You also asked for a statement explaining why the Joint Committee "was not officially informed of the release of this information at the time the report was supplied the United Nations."

No information on radiation levels in the numerical sense was supplied the Department of State or the United Nations. The effects of fallout on the Marshallese and the Japanese fishermen were described, however, in order that recommendations made by the Department of State or actions taken by the United Nations could be based on information which was factually accurate.

As you know, a group of prominent citizens in the Marshall Islands addressed a petition to the United Nations on April 20, asking for the cessation of further tests in the Pacific but requesting, if further tests were found necessary, that all possible precautions be taken to protect the health and welfare of the islanders. In preparation for a meeting of the Trusteeship Council, the Department of State asked the Commission a series of questions pertinent to the Marshall Islanders' petition and the March 1 incident. I have attached a copy of the Commission's communication to the Department of State on this subject for your information.

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RG 128 Records of SCAE, General Correspondence
Box 712
Transportation (general) 1954/1955

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In addition to this communication, Dr. John C. Bugher, Director, Division of Biology and Medicine, who at the request of the U. S. delegation was present at the Trusteeship Council meetings on July 6 and 7 as a technical adviser, prepared a brief statement on the radiological problems arising from the incident for inclusion in an oral report to be made by Mr. Frank E. Midkiff, then High Commissioner of Trust Territories in the Pacific. A copy of this statement is also enclosed.

You will note that radiation levels are discussed in both documents in only very general terms and only to the extent believed necessary to allay unfounded fears.

Some of the information supplied the Department of State and United Nations was previously unpublished, partially because the test series had so recently ended, but was covered in the Commission's Sixteenth Semiannual Report. We felt it necessary, because of the question of the future availability of the Pacific test site, to supply promptly to the Department of State and the U. S. Delegation all pertinent unclassified information. It will be noted, however, that none of the material furnished involved "restricted data." Moreover, we believe that no information was supplied which was not already known to the JCAE.

Data on numerical radiation levels was included on pages 41, 42, 43, and 52 of the Commission's classified Program Status Report dated June 30, 1954, copies of which were, of course, provided your Committee.

If we can be of any further assistance in this matter, we trust that you will so advise us.

Sincerely yours,

K D Nichols

K. D. Nichols
General Manager

Enclosures:
Answers to State Department
"List of Possible Questions"
Dr. Bugher's Statement on
Radiological Problems

[redacted]

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UNCLASSIFIED

ANSWERS TO STATE DEPARTMENT "LIST OF POSSIBLE QUESTIONS"

The following answers are in the same general order as the questions submitted.

1. The area of the Trust Territory was chosen for testing purposes because of its remoteness from populated centers and from established air routes and sea lanes. Another consideration was to obtain climatic conditions which present few obstacles to operations which are rendered quite difficult even under optimum conditions.

2. It is expected that there will be no deleterious, long-run effects on the physical well-being of the native inhabitants. This is based on the best medical estimates of external radiation doses as well as on the body burden of the ingested and/or inhaled fission products. Should a technical discussion develop on this subject the Atomic Energy Commission will be pleased to make available a person competent to answer such questions as may arise.

It is, of course, difficult to evaluate precisely the psychological impact of an incident of this kind. The Atomic Energy Commission has observed, however, that

(a) the evacuees were very satisfied with their treatment and living conditions at Kwajalein and with the announced plans to restock their islands;

(b) possibly the greatest concern to the natives in their minds is the uncertainty of the time of return of some of them to their home islands. Reassurances of their return and the time thereof have been made and will continue to be given.

3. The danger area as established before the start of CASTLE and as extended after the first shot of the series included no inhabited areas aside from the Atolls of Eniwetok and Bikini which were occupied solely by American Test Personnel. However, outside of the established danger area, the Atolls of Rongelap and Utirik, inhabited by Marshallese, and Rongerik, temporarily occupied by American Weather Personnel, were contaminated by radioactive fall-out because of an unexpected shift in wind conditions. As a result, the Commander, Joint Task Force SEVEN, ordered these Marshallese and United States Weather Personnel evacuated temporarily to Kwajalein Atoll, where they were given a thorough medical examination including blood counts. They have been kept under constant surveillance by an Atomic Energy Commission - Department of Defense team of medical experts. In addition to receiving the best of medical care, the people were well provided for in terms of food, clothing, shelter, and recreation. Sixty-four Marshallese were evacuated from Rongelap, eighteen from Ailinginae, and one hundred and fifty four from Utirik. The radiation level to which the Utirik inhabitants were exposed did not demand that they be removed but they were transported as a precautionary measure. About 40 persons from Rongelap showed beta radiation burns principally on their

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scalps and necks. Nearly all of these burns have healed leaving no permanent marks. Some 30 of these same persons also suffered loss of hair in patches on the scalp. It is expected that there will be regrowth of normal hair in these areas. It should be noted that the people who were on Ailinginae were residents of Rongelap but were engaged at the time of fallout in harvesting food. The 28 American Weather Personnel were evacuated at the same time in the same manner. The period of close medical observation having been completed, the inhabitants of Utirik have now been moved to their original homes and established under living conditions equivalent to or better than those which obtained at the time of evacuation. The people from Rongelap are being provided with improved homes on Majuro Atoll fabricated from plywood with aluminum roofs. This type of construction will enable them more efficiently to collect rain water which will enhance their subsistence. These new dwellings on Majuro Atoll are being built on a temporary basis and they will be removed from Majuro with the natives when they are re-established in their original homesite on Rongelap in approximately six months to one year. At that time they will be furnished livestock, provisions, and impedimenta which will establish living conditions at least equivalent to those which obtained immediately prior to the initial evacuation.

4. There was no land destroyed or damaged outside the Pacific Proving Grounds (Eniwetok and Bikini Atolls). With respect to other atolls the fallout that occurred did not damage the land in the sense that it could not be reinhabited or could not be used for agricultural pursuits. Except for possibly the uninhabited northern islands of Rongelap Atoll, all of the islands could be re-entered safely in the near future by personnel who had not previously experienced significant radiation exposures. Since the indigenous inhabitants have already received some radiation exposure, it has been deemed wise not to allow them to return until the activity has decayed to an insignificant level. The amount of activity in the soil does not constitute a hazard to the growth and edibility of plant life. The amount of activity in Bikini and Eniwetok lagoons would make it unwise to eat fish at this time from these areas without monitoring them first. The information presently available indicates that the fish in all the lagoons, except Bikini and Eniwetok, and in the open sea are suitable for consumption at this time, as the activity is so small that no deleterious effects may be expected to the fish themselves nor will the edibility of the fish be impaired. It is pertinent to note that the fish which normally inhabit the lagoons are not of the migratory species and that those migratory fish which enter the lagoons are not apt to become radioactive during the short period in which they remain in the lagoons. No sea areas need decontamination. The radioactivity on practically all of the islands will be at a very low level in a few months.

5. As pertains to compensation for injuries and loss of income suffered by the natives, personnel of the Atomic Energy Commission and the Department of Defense are now investigating means for settling any claims which may arise. As of this date no claims have been registered by native personnel. In connection with Bikini and Eniwetok Atolls steps are being taken by the Department of the Interior and the Navy Department to settle claims in favor of the former inhabitants of those atolls for the use of their lands.

6. Prior to the CASTLE test series the United States established a danger area around the Pacific Proving Grounds. The area was bounded by the meridians 160°35' - 166° 16' East Longitude and the parallels 10°15' - 12° 45' North Latitude. Formal notices were published warning vessels and aircraft to avoid the area designated above. This information was disseminated through all practicably available channels such as Notice to Mariners, Notice to Airmen, daily memoranda from the various Hydrographic Branch Offices Pacific, and scheduled radio broadcasts by Hydrographic Office Pacific. After the experience of the first shot of CASTLE, the danger area was extended to include the above area plus a sector from 240° clockwise to 095° out to a distance of 450 miles from a point 12° North 164° East. This new enlarged danger area was made known prior to continuation of the test series through the channels noted above and in addition special notification was given to the Japanese Government through our State Department and our Far East Command.

In addition to the above warnings, the Commander, Joint Task Force SEVEN, maintained an active sea and air patrol of the area at all times. During periods immediately prior to shot times these patrols were intensified and extended. Areas of predicted fallout were searched from ground zero over a sector extending 600 miles out and 120 miles in width. The Atomic Energy Commission considers the above measures were adequate. If during these patrols and survey periods the Task Force had noted any personnel within the danger area it would have taken measures to warn such personnel to leave the area and the shot would have been deferred until they had moved to a safe location. The danger area was abolished on May 21, 1954 and the only areas from which transient aircraft and shipping are now precluded are the closed areas of Bikini and Eniwetok Atolls and the water areas of their lagoons within three miles to the seaward side of the peripheries of the land areas of these atolls.

7. At future tests the Atomic Energy Commission will exercise all caution possible to avoid injury to personnel or damage to property. Based on knowledge gained in past experiments, the Commission feels that it can assure that future tests can be conducted without any untoward incidents.

RADIOLOGICAL PROBLEMS IN THE MARSHALL ISLANDS

The following statement is based upon information furnished by the Atomic Energy Commission.

Bikini and Eniwetok:

Permanent alteration from atomic explosions is limited to the test atolls of Eniwetok and Bikini. Here, in addition to structural change of the coral reefs, there are high levels of radioactive contamination which will require several years to pass before all of the islands of these two atolls would be suitable for human habitation.

Rongelap:

Outside the immediate test area, the only serious radioactive contamination occurred in the atolls of Rongelap, Alinginae, Rongerik and Utirik following the detonation of March 1, 1954. As a matter of fact, only the Rongelap atoll and especially the northern section of this atoll was very seriously affected.

Some degree of damage to leaves and plants by the fallout material on Rongelap appears to have occurred but this in itself is of no especial importance. However, such leaf contamination does establish a mechanism for the entry of certain radioactive isotopes into the plant itself. Considerable careful analytic study, in addition to the large amount already performed, will be necessary before a firm statement concerning the degree of entry, if any, of the radioactive material into the edible portions of the cocoanut palm and other plans can be made. In any event, such internal contamination of plants as may have occurred will steadily diminish with time.

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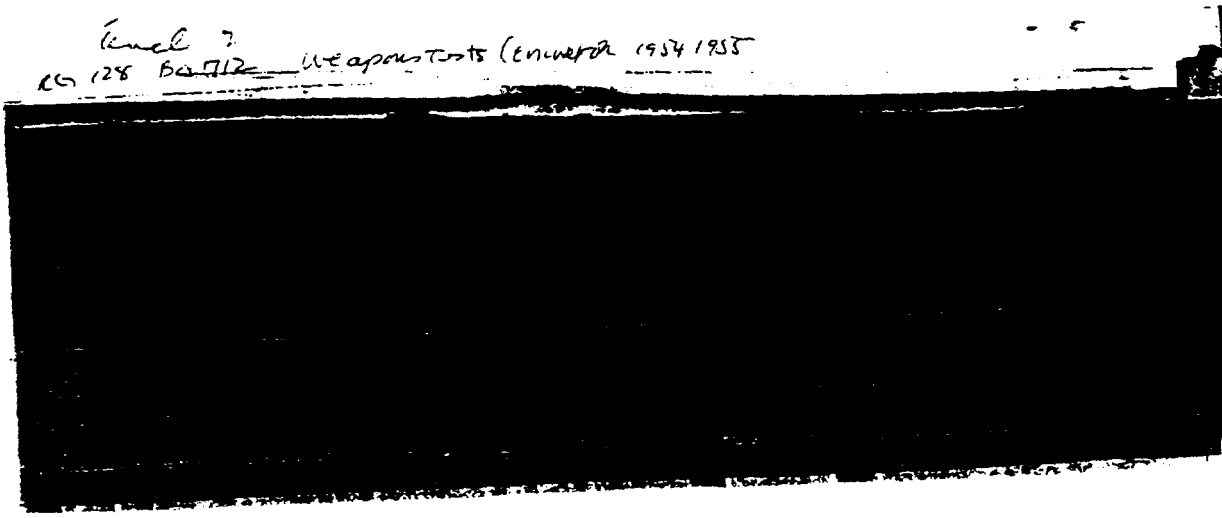

The most significant factor in the Rongelap situation is time in relation to radioactive decay. On this basis alone the Rongelap land areas will be below the permissible occupational exposure rate in about 12 months, no allowance being made for the additional decontaminating effect of weather, especially the heavy tropical rains.

Profound alterations of the Bikini lagoon fauna have, of course, already occurred and shortly after March 1 highly contaminated fish specimens were taken in the Rongelap Lagoon. The species of fish which predominate in these atolls are non-migratory and unlikely to be taken in the course of fishing outside the lagoons in question. By the time the islands are ready for reoccupancy, even the most highly contaminated fish will no longer be dangerous as food.

No other fallout of consequence occurred other than in the two test atolls mentioned during the remaining detonations of the 1954 series nor were there any concentrations of health significance over any of the other Marshall Islands.

In summary, it is unlikely that any significant abnormality will be found in either the flora or fauna outside the two test atolls. These matters will be the subject of continuing investigation in an elaborate program of ecologic study that was, in fact, put into operation before the first thermonuclear detonation of November 1, 1952.