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April 17, 1974

Chairman Dixy Lee Ray  
 United States Atomic Energy Commission  
 Washington, D.C.

RE:BIKINI ATOLL

Dear Chairman Ray:

As I believe you know, the People of Bikini atoll, and the magistrate and councilmen of that atoll, have asked Micronesian Legal Services to act on their behalf in a variety of matters. Generally speaking, we are dealing with problems stemming from their removal from Bikini atoll many years ago, and from the impending return to a partially rehabilitated Bikini.

In the past two years, we have been only minimally involved on behalf of the Bikini people in matters concerning residual radiation at Bikini. As the date for eventual return to Bikini moves closer, it is increasingly apparent to us that there are unanswered questions concerning the residual radiation at Bikini. Perhaps the AEC does not find numerous unanswered questions, but it is clear that neither the Bikinians nor their counsel have sufficient data and/or opinions, upon which to make intelligent decisions and important choices. In considering the radiation situation, it appears to us that the major areas of concern are as follows:

1. What document, memo, or report, from the AEC or from other sources, says that Bikini atoll is now safe for full time human habitation? We have a copy of "The Report of the Radiological Clean-Up of Bikini Atoll" by Allan E. Smith and William E. Moore, published in January, 1972. However, this report does not ade-

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quately deal with the potential problems of human habitation at Bikini. It does contain a short, 2 page, section entitled "summary and recommendations" which comments briefly on the advisability of human habitation at certain points on the atoll. These conclusions and recommendations are apparently based primarily on data obtained from portable gamma survey meters which indicated readings from less than 5 micro r/hr. to over 700 micro r/hr. at various points in the atoll.

This report makes reference to a 1967 Ad-hoc Committee which evaluated the radiological hazards of resettlement of Bikini. We presume that this committee made extensive written findings, conclusions, and recommendations. May we please have a copy of their report, and of any reports updating or altering their conclusions? Are there other reports or memoranda from AEC or other sources, which make recommendations about human habitation at Bikini? If so, will you please send us a copy?

On the same topic, we understand that several years ago, Tom McCraw, head of the AEC's Division of Operational Safety, made a trip to Kili Island to discuss radiation with the Bikini people. Memories have faded considerably, however, and no one with whom we have discussed this visit can remember exactly what was said or even the general tenor of the advice given. If there are substantial radiation hazards at Bikini, and significant advisory measures that need to be followed by the people, perhaps it would be a good idea to have a repeat visit by Mr. McCraw sometime shortly after the people have been resettled. In any case, it would be helpful for us to have copies of any transcripts, notes, or reports stemming from the earlier visit by Mr. McCraw to Kili.

2. A second major concern is the quality of the past radiological surveys of Bikini. We understand that the Division of Biology and Medicine of the AEC did radiological surveys of Bikini in 1964 and 1967. Did these surveys collect a sufficient quantity of data to permit truly reliable recommendations? Our understanding of the 1972-73 Enewetak Radiological survey leads us to believe that instrumentation, detection equipment, and sampling techniques have all improved considerably since 1964 and 1967. Do you believe that it is advisable to have an updated radiological survey of Bikini, to take advantage of technological advances, and to take a greater number of soil and biota samples than was taken in 1964 and 1967?

3. A related concern is the apparent lack of data from Bikini that will allow reliable estimates of internal dosages. At least we have not seen any reports that indicate detailed sampling, or indeed any significant sampling, of edible fish and plant material from Bikini atoll. Have such samples, in sufficient quantity, been taken? If so,

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will you favor us with a copy of the recommendations and conclusions for human habitation based upon such a study? The radiation figures we have do not appear to take possible internal radiation into account.

4. The Smith and Moore report which we have indicates that the mean background radiation in the village area on Bikini island is 44 micro r/hr. On a yearly basis, this produces an exposure of 375 mr per year. The Smith-Moore report indicates, however, that the village area will be covered with crushed coral, which they say, will cut the mean exposure rate in half. Does the AEC have hard data to support this statement? Similarly, it is said that the concrete floors of the houses will reduce the exposure. We do not doubt that the concrete will reduce the exposure, but how much will it reduce it? Quite clearly an exposure rate of 375 mr per year is more than double the established guidelines for population groups, which is set at 170 mr per year. Rather than speculate on what the exposure levels might be with concrete or coral, we would like to know exactly what the levels are in the areas where the Bikinians will do most of their living. Perhaps surveys that have been done since 1967 show such figures, or, hopefully, the survey just completed by Dr. Conard and others will disclose reliable figures for exposure levels in the village area.

5. Finally, and perhaps most importantly, we hope that the AEC will present the Bikini people with reliable data, opinions, and recommendations based upon the data, in order that they can decide for themselves what risks are acceptable. The decisions that might need to be made, for example, are where to live (Kili or Bikini; if Bikini, which island, and where, on that island); what island at Bikini should be visited, and for how long; what foods should be eaten or avoided, and in what quantity. It appears to be fairly certain that the Bikinians will choose to live on Bikini rather than Kili, even if there is some probability of harmful effect from radiation. To the best of our knowledge, the other questions have not yet been specifically addressed by the Bikinians.

It is, of course, quite difficult to present the questions of possible risks from low dosage radiation in a meaningful, comprehensible, non-alarming manner. Nevertheless, we believe it is important to make the attempt. Our brief study of the area has not led to a clear idea of how the explanation should best be made. In response to a question, Dr. Walter Nervik has informed us that attempts to state probabilities of genetic and/or somatic defects, based on various dosage levels, will not be meaningful when applied to a population as small as 600 people. Mr. Roger Ray, of the AEC Nevada Operations office, has suggested that comparisons of radiation levels at Bikini with the United States or elsewhere will be a useful tool

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in comprehending risks from background radiation. In any case, we believe that it is vitally important to state the risks, however, small, from low dosage radiation, in a manner that is comprehensible to the Bikini people. We are sure that you share this belief, and that the AEC will have constructive ideas as to how to present sophisticated concepts of radiation to a non-technological society such as the Bikini people.

We realize that the above request to state the risks of low dosage radiation in a meaningful manner intrudes somewhat into the controversial area surrounding the threshold or no threshold debate. We do not suggest that we accept or reject either theory. However, as stated by the National Council on Radiation Protection and Measurements, ". . . prudence demands that, even though unproven, the no threshold concept should be used for estimating the maximum deleterious effects of ionizing radiation." (Basic Radiation Protection Criteria, p. 58) What we are saying is that although it may not be standard AEC policy, for the purpose of evaluating and stating the risks to the Bikinians, the AEC should assume the no-threshold theory. At the very least, we request that you evaluate the risks using both threshold and no threshold assumptions.

A number of Kili people may be able to return permanently to Bikini in the next month or so. We do not believe that their return is contingent upon receipt of the information requested in this letter. Nevertheless, it would seem appropriate that a response be prepared as soon as possible. We look forward to receipt of the AEC evaluation of the concerns expressed above.

Sincerely,

HAMLET J. BARRY, III  
THEODORE R. MITCHELL

By: Hamlet J. Barry, III  
Hamlet J. Barry, III

xc: Distad Marshalls  
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