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2.8 MARSHALLESE ISLANDS
FOLDER #2 NOV 1976 - OCT 27, 1977

Battelle

March file

July 29, 1977

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Dr. Hal Hollister
Deputy Assistant Administrator
Office of the Assistant Administrator
for Environment and Safety
Energy Research and Development Administration
Washington, D.C. 20545

Subject: Rehabitation of Enewetak and Bikini and Behavioral Response to Safety Recommendations

Dear Dr. Hollister:

Dr. William J. Bair, Manager of Battelle's Pacific Northwest Environmental and Safety Research Laboratory, strongly recommended that I correspond with you concerning current rehabitation efforts occurring on the Enewetak and Bikini atolls in the Marshall Islands.

Processes and consequences of relocation and rehabitation of communities, especially culturally diverse groups, have concerned me for some time. As I emphasized in my enclosed overview, the culture and life style of relocatees are dramatically altered. Home and work patterns must be adjusted to accommodate life styles in the new community. Interpersonal conflicts typically emerge causing emotional difficulties. Admittedly, issues of this kind are complex, and frankly, not well understood by social scientists. The status of Marshall Island groups on Enewetak and Bikini appears to fit this pattern and we fully expect long-term adjustment problems to occur.

Rehabitation of the Marshall Island communities on Enewetak and Bikini presents unique difficulties not ordinarily experienced by people returning to their homelands. Specifically, the radiation fallout resulting from the 46 different nuclear tests in the late forties and fifties are introducing problems with attendant biological risks. Monitoring of radiological levels by ERDA indicates that "hot spots" still exist. Furthermore, many forms of existing flora and fauna are considered nonedible thereby restricting the diet of the natives.

Variable levels of radioactivity have already created some problems for a small number of Bikinians. Tests revealed that many had increased body burdens of cesium-137 caused by

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eating breadfruit and pandanus. The returnees were told not to eat these food sources. In addition, measurable traces of plutonium have been found in their urine.

Based on these reports and others we have received it is apparent that attempts to communicate the risks of contamination have been unsuccessful. Yet, in the near future, returning natives will be formally provided with specific instructions and recommendations for avoiding "hot spots" and contaminated food sources. From our knowledge of the culture and life style of returnees we would predict that many of the recommendations won't be followed and further complicate the total rehabitation effort.

Steps must be taken to monitor and assess the behavioral response of returnees to safety recommendations. To accomplish this we would urge ERDA to take the initiative to sponsor a systematic assessment of the rehabitation process including a specific assessment of the behavioral patterns associated with adapting and coping with radiological levels.

The assessment would emphasize the behavioral components of the response to safety standards and relationships with long-term adjustment over the next four years, the period of time set aside to complete the rehabitation process. Certain behavioral patterns are likely to emerge that are directly connected with the presence of radiation and knowledge of the thyroid problems experienced by natives at Rongelap and Utirik.

In the course of planning and conducting the assessment, a number of substantive questions can be raised, as follows:

1. What adjustments and accommodations will be made by relocatees in response to safety recommendations? To what extent will normal daily life styles be affected?

2. Can ERDA be assured that relocatees will fully comprehend the concept of radiation exposure and the intrinsic rationale for the imposition of safety instructions and recommendations?

3. What sociocultural norms and sanctions, if any, will emerge that will prevent returnees from frequenting off-limit areas and eating contaminated food? How will they be enforced?

Who will administer the sanctions? How will returnees react and respond to enforcers?

4. Will behavior responses to safety recommendations be followed indefinitely or will they fluctuate according to the presence or absence of enforcers or ERDA monitoring teams?

5. What are potential outcomes if returnees simply fail to respond to safety instructions? What form will behavior take and to what extent will it assist in shaping attitudes towards "outsiders"? If this should occur what steps can be taken to prevent it?

The basic approach of the project would be interdisciplinary and would utilize an ethnographic case study and functional analysis at the individual, social and cultural levels. Measurement techniques would include field and participant observation, structured interviews, self-reports and biodocumentaries, official records, and critical-event documentation. Approaches and procedures are considered by most behavioral scientists as very acceptable for monitoring and documenting the responses to situations similar to those discussed above.

The significance of the study has far-reaching implications and the results would greatly increase understanding of a rehabitation process in an environment that has been drastically altered by technological research. Furthermore, effects of forced migration and eventual rehabitation will likely be repeated in the near future in different settings. Possibilities include coal excavation on the lands of American Indians and Alaska natives, nuclear waste disposal in southwestern states, and oil shale exploration throughout the west and Alaska. All such actions would unquestionably disrupt existing communities and might well involve relocation of residents. Hence, knowledge gained from an assessment of the circumstances in the Marshall Islands should facilitate (a) greater awareness of the social, psychological, and cultural consequences of population displacement and (b) development of guidelines for more effectively managing relocation and rehabitation when they are necessary in the future. Most importantly, however, is the potential for predicting and preventing further hardships among the Marshallese.

We are aware of current efforts and responsibilities of ERDA, Department of Defense, and the Department of the Interior as

it pertains to the rehabitation process. Also our almost daily communication with ham radio operators on Enewetak and Majuro keep us informed of developments. We are encouraged by continued efforts to monitor radioactivity levels. Being aware of the biological problems they may face, natives are returning in small numbers prior to the official beginning of the rehabitation effort. However, how they will respond to safety recommendations and accommodations to conditions are unknown. Behavioral problems will occur and can endure for a number of years. They can be prevented through careful study and analysis.

The Battelle Human Affairs Research Centers here in Seattle has competent staff sensitive to the issues just raised and can plan a long-term program to investigate these issues. The task demands an interdisciplinary approach where staff scientists representing a broad range of social and behavioral science expertise function as a team.

I have a number of additional thoughts and ideas on the subject and would welcome the opportunity to discuss these with you in the immediate future. I look forward to hearing from you.

Sincerely,

Joseph E. Trimble

Joseph E. Trimble, Ph.D.
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JET:mr
Enclosure

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