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**MARSHALL ISLANDS PROGRAMS**

By memorandum of June 3, 1974, you requested my comments upon a proposed assignment to NV of responsibility for programmatic coordination of the Commission's activities in the Marshall Islands. Although I have not heretofore formally responded to that request, you are aware of a number of informal exchanges and meetings in recent months wherein attempts have been made to more clearly understand the scope and nature of an assignment which would be appropriate for the Nevada Operations Office. Meanwhile, pending such assignment, NV has significantly broadened its participation in the planning, execution and support of pertinent Commission-sponsored Marshall Islands activities.

In approximately the same time frame -- that is, over the past nine months -- the capabilities and resources available to the Commission in the mid-Pacific have been substantially upgraded; notably:

- a. The Marshall Islands Research Vessel has been acquired and has become fully operational, making, on the average, one major expedition each month of its operation.
- b. Associated with the research vessel, six trailers have been acquired, positioned at Kwajalein and configured for a variety of scientific and support functions to facilitate rapid modular fitting-out of the vessel for its varied missions.
- c. The Mid-Pacific Marine Laboratory, operated under NV contract by the University of Hawaii, has become a year-round facility with a full-time resident manager and assistant manager. Planning is under way for a new, permanent facility.
- d. Direct involvement of the College of Tropical Agriculture, Institute of Geophysics and other segments of the University of Hawaii in the Commission's current programs assures access to and support from working scientists with knowledge, experience and interest in the Micronesian environment. This is an important complement to the long-standing involvement of the Hawaii Institute of Marine Biology.

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- e. Close coordination and cooperation have been continued and expanded with the Offices of the High Commissioner, TTPI and the District Administrator of the Marshall Islands. This assures the support and assistance of such officials as the District planners, District Agriculturist, Director of Public Works, and District Attorney; and the cooperation of such activities as the Ponape Agricultural Station.
- f. Coordination has been continued with the leadership of the People of Enewetak and their counsel (Micronesian Legal Services, Inc.) to assure the acceptability to them of the Commission's plans and the relevance of these plans to the real needs of the returning population. (It is noted that much more of this type effort is needed with respect to the People of Bikini, a subject which will be separately addressed.)

The above capabilities and resources have application to a variety of projects, programs and activities conducted for and under sponsorship of the Commission by its laboratories and other contractors. Among these activities are:

- a. The continuing evaluation of the radiological environment of all Atolls and Islands of interest -- notably these include Enewetak, Bikini, Rongelap, Rongerik, and Utirik.
- b. Studies of the significance of this environment to the resident and returning peoples.
- c. Continuing medical surveillance (and treatment as appropriate) of the resident and returning peoples.
- d. Study and evaluation of methods and techniques for improving the radiological environment and for minimizing its impact upon the health and welfare of the resident and returning peoples.
- e. Development of a better understanding of the dynamics of radio-nuclide deposition and migration in, and removal from, the coral atoll environment.
- f. Technical advice and support, especially in radiological matters, to the Department of Defense, the Department of the Interior and the Trust Territory of the Pacific Islands.

Programs and projects addressed to the above-stated activities receive, and historically have received, direction from at least three Headquarters Divisions. Many of them have been one-time, short-range efforts.

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It seems clear at this juncture, however, that the United States Government has a long-term (at least tens of years) broad spectrum commitment which will impact upon virtually every facet of the lives of the inhabitants of Bikini and Eniwetak, and, perhaps to a lesser degree, those of other Atolls as well. It seems clear, also, that deriving as it does from past activities of the AEC and requiring capabilities and expertise which are being transferred to ERDA, the commitment should logically become an ERDA commitment.

It is appropriate now to examine some of the details of current and recent AEC Marshall Islands activities:

The Enjebi Issue. Early in September 1974, in meetings at Eniwetak, the Commission's representatives informed the people of its cleanup and resettlement recommendations. Most critical in its impact was a recommendation that the return of people to the northern portion of the Atoll be delayed for an indefinite period, due to the relatively high concentrations of radionuclides in soil, and uncertainties regarding uptake into edible plant species. Later, pressed for a more specific prognosis, Commission representatives assured the Eniwetak and Trust Territory officials that a research program would be undertaken and forecast that in "about five years" we would have a sufficiently better understanding of the dynamics of the Enjebi situation to make firm recommendations regarding habitability and lifestyle. Meanwhile, the Enjebi people -- traditionally a cultural and political community distinct from the Eniwetak community in the South -- are to be denied an early return to their homeland. The two communities are friendly and may be expected to find an accommodation to whatever restrictions may be imposed; but the current recommendations have a major impact upon their society and their planning. Our planning, therefore, must contemplate not only good research and scientifically supportable judgments, but sensitivity for and an understanding of the social, cultural, economic, and legal implications of practical application of these judgments. This will necessitate continuous, active ERDA involvement in the study of resettlement options and in Eniwetak master planning. Further, the experimental program at Enjebi may be expected to produce an improved understanding of the mechanisms which influence our concerns elsewhere; i.e., Bikini; and conversely, the knowledge and experience which we gain at Bikini will inevitably enhance our understanding of Enjebi.

Bikini Agriculture. At Bikini Atoll, Bikini and Enyu Islands, having been released for resettlement in 1968, now have food crops, some of which are mature and bearing and others of which soon will be. Thus, Bikini presents an opportunity to obtain solid, factual information about radionuclide uptake in a real and representative situation. Already in the process of resettlement, however, Bikini presents only a

limited opportunity for agricultural experimentation under controlled conditions. Thus, as suggested above, our environmental surveillance and experimental agricultural programs at Bikini and Enewetak (Enjebi), and the research and analysis pertaining thereto may best be considered as component parts to one coherent overall effort.

Bikini Survey and Master Planning. The pre-cleanup radiological survey of Bikini Atoll, completed in 1967, was somewhat less extensive than the recent survey of Enewetak. There were some significant gaps in the consideration of dose-to-man from the terrestrial food chain. Thus, concern has been expressed recently, both in Headquarters and in the Marshalls, regarding the unrestricted resettlement of Bikini Island -- a resettlement which is already well underway. On November 3, 1974, the Director, DOS, by letter to Stanley Carpenter, Director of Territorial Affairs of the Department of the Interior, recommended no further housing construction on Bikini Island until a better understanding of the radiological conditions could be obtained, and indicated concern about the food crops which are being produced on Bikini. His letter arrived at Interior and thence in the Trust Territory at a critical juncture: the next phase of the Bikini resettlement master plan had just been approved by the people and was being readied for presentation to the District Administrator. Understandably, Mr. Carpenter, in his response, urged an early resolution of the questions which had been raised and active AEC participation in ongoing planning for Bikini. Again, as in the case of Enjebi, important social and economic factors are involved and will inevitably influence and complicate the application of scientific judgments, if not the judgments themselves. For the immediate future, it seems generally agreed in Headquarters and is the NV position that an aerial survey of Bikini Atoll and a terrestrial survey of Bikini Island should enjoy high priority for early accomplishment. A Bikini survey project will be recommended by a separate memorandum.

The above-noted activities are but three of many -- set forth here because they exemplify the many, and because they provide a basis for examination of the management of our Marshall Islands programs.

Based upon recent discussions in Headquarters, it is my understanding that DOS is considered to have cognizance of and responsibility for Bikini surveillance, both medical and environmental. I understand also that DBER is considered responsible for the Enjebi effort. The participating activities at Bikini under DOS sponsorship include, notably, Brookhaven and the University of Washington. Livermore, however, has proposed to DBER a sampling program at Bikini as a complement to its proposed agricultural program at Enjebi. Clearly, although the objectives of these efforts may not be identical, they must perforce interact and will probably be found to have sufficient similarity to be mutually supporting. NV has attempted, through informal contact, to see that

these efforts are not unduly duplicative and are at least in communication. Other investigators (for example, PRIC) under AEC sponsorship visit Bikini from time to time, but without having access to their approved research proposals I cannot address them in the above context.

Turning again to Enjebi, Livermore has proposed to DSER an extensive experimental agricultural program accompanied by, and complementary to, a detailed study of the dynamics of radionuclide migration. This effort, if authorized, will require long-term, near full-time on-site effort. It will also require the application of expert knowledge and understanding of tropical agriculture, plant pathology, salinity tolerance, etc. NV, through its relationship with the University of Hawaii, recently sponsored a meeting wherein the resources of the University's College of Tropical Agriculture were made available to at least consult on this effort. It is hoped and anticipated that the University of Hawaii will become an active participant. Further, it is hoped that the full-time field effort may be provided at minimal cost by using the Manager of the Mid-Pacific Marine Laboratory and resources already in the field and available to him. One distinct possibility, anticipating the imminent return of a population to Japtan Island, is the use of indigenous labor under supervision of the Manager, MPML. Finally, there are as yet untapped sources of support and assistance in the Trust Territory Department of Agriculture which operates the Ponape Agricultural Station and in the Cooperative Extension Service of the USDA which is active in Micronesia. Access to these resources also is being pursued by NV.

NV has been given responsibility for the acquisition, fitting-out, scheduling, and operation of the Marshall Islands Research Vessel. A scheduling meeting was held soon after the vessel became operational and a high level of utilization has been maintained during the first year of operation; however, increasingly, the requirements for on-board equipment and the scheduling requests and requirements have contained conflicts requiring compromise and negotiation. For example, on a forthcoming Enewetak expedition for which Livermore is the lead user, Battelle has requested personnel spaces and support as well as an extension of four days on site. This, in turn, impacts upon the maintenance schedule which must be met before the next expedition is undertaken. Schedule adjustments have been made so as to accommodate the Battelle request, but this has been done without the benefit of an appreciation by NV of the relative importance of the Battelle program or, indeed, of its technical content and objectives.

As is seen from the above discussion, the Commission's (or ERDA's) activity in the Marshall Islands is a complex, costly, multifaceted program which I believe to be of high national importance. I am confident that we have, in-house and under contract, the resources to conduct and

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manage that program efficiently, economically and to the satisfaction of the people of the Marshall Islands, but this will not happen by accident. It is generally considered, I believe, that IIV has provided highly satisfactory management of the logistics and support of the Mid-Pacific Marine Laboratory (formerly EMBL), the Brookhaven medical surveys, the radiological surveys of both Bikini and Eniwetok, and a variety of related and peripheral programs. As detailed in this memorandum, however, the technical content of this large array of programs is becoming a matter for increasing concern and a matter whose interaction with logistics and support merits immediate and continuing attention. Increasingly, also, the interrelations between these activities and the dynamics of the affected island societies demand attention.

From a purely management standpoint, it would appear most desirable to consider the Commission's activities in the Marshalls as one coherent program under a single manager, whose responsibilities would include centralized technical direction. The program would be funded and defended as an entity and would receive only broad policy direction from Headquarters. I recognize that there are cogent objections to such an approach from those who have program responsibility in Headquarters. I suggest, however, that it should be possible to develop a means of review and coordination in the field without relinquishing Headquarters control of individual programs where this is considered necessary or desirable. Such review and coordination should enhance the Headquarters-directed programs by assuring optimum availability of administrative and logistical support and should facilitate the exchange of information among Commission-sponsored programs as well as between these programs and related activities outside the Commission.

I recommend that IIV be assigned responsibility for the coordination of all of the Commission's (ERDA's) activities in the Marshall Islands and that this assignment be made known to Headquarters staff as well as to concerned field offices and contractors. I further recommend that arrangements be made to assure that IIV is afforded an opportunity to review and comment upon all proposals to conduct research, studies and related activities in the Marshalls. Upon receipt of such an assignment, I propose to designate the Assistant Manager for Operations as cognizant official and would be pleased to have him represent me in discussing and negotiating details with your staff.

Mahlon E. Gates  
Manager

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