

JOINT TASK FORCE EIGHT  
RADIOLOGICAL SAFETY PLAN FOR BIKINI CLEAN-UP

References:

- a. Code of Federal Regulations, Title 10, Part 20, "Standards for Protection Against Radiation", dated 9 Aug 66.
- b. Handbook 59, "Permissible Dose from External Sources of Ionizing Radiation", National Committee on Radiation Protection and Measurements, published by the National Bureau of Standards, Sep 54.
- c. AEC/DASA Technical Publication 20-5, May 68.
- d. Handbook 69, "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and Water for Occupational Exposure", National Committee on Radiation Protection and Measurements, published by the National Bureau of Standards, Aug 63.

1. General. In the restoration of an area formerly used as a site for nuclear testing, radiological support is necessary to insure that no radiological hazard exists or is created by restoration operations.

2. Operations.

Radiological Operations. Radiological operations which may be required are:

- a. Monitoring of items of debris for both alpha and beta-gamma.
- b. Monitoring of air during operations which raise dust.
- c. Monitoring of personnel who participate in clearing and removal operations.
- d. Provision of film badge service and readout capability.
- e. Provision for radiological support and supplies to include instruments, batteries, protective clothing, respirators, and field instrument checks.
- f. Clean-up of the Bikini-Enyu complex to enable continuous occupation by the native population.
- g. Disposal of radioactive scrap and any other radioactive material cleared from the Bikini-Enyu complex and from other islands of the atoll.

h. Bio/environmental sample collection as required and transmission to the laboratory for analysis.

i. Clean-up support radiological surveys.

### 3. Radiation Limits.

a. References a and b, which give the acceptable limits for radiation exposure to workers, will apply during the operation. The basic is 5 rem per year, or 1-1/4 rem per quarter. No one worker will receive more than this amount. This shall not apply to Bikini people. Bikini native workers will be considered as individuals in the general population, having an exposure limit of 0.5 rem per year.

b. Plutonium alpha acceptable contamination limits are specified in reference c.

c. Limits for internal exposures and concentrations of specific isotopes will be governed by reference d.

d. The On-Site Commander (CJTG 8.8) will take positive action to insure that no worker receives a dosage exceeding the limiting amounts prescribed by the references.

### 4. Responsibilities.

a. DOD: JTF 8 will manage the clean-up effort, to include radiological safety support. The DASA Nuclear Emergency Team (DASA NET) will deploy one officer and three Enlisted Men initially to support the Commander, Joint Task Group 8.8 (CJTG 8.8). This group will be augmented with additional people as needed.

b. AEC: The AEC will be responsible for determining that the radiological health and safety requirements for the scrap removal project at Bikini Atoll are met at the completion of this project. The AEC will provide an advisor for health physics and radiation protection matters. The NVOO Safety Advisory Group will advise CJTG 8.8 during the operation and will make the determination at the close.

### 5. Safety Procedures.

a. Radiological monitoring and health protection support will be made available for all clean-up operations.

b. Film badges and pencil type dosimeters will be worn by all personnel participating in Bikini Clean-Up.

c. As clearing operations provide entry into heavily vegetated areas, bio/environmental samples such as vegetation, soil cores and ground water will be taken as appropriate at Bikini Atoll and returned to the laboratory for analysis.

d. Collection of debris and disposal will be performed by the AEC contractor. Disposal will be in water of sufficient depth such that the scrap material will be unavailable to the returning population.

e. On Enyu, particular attention during clearing operations will be given to the old aircraft decontamination pad located near the three piers and marked with radiation warning signs. The metal scrap pile will also be monitored closely during removal.

f. All facilities that are to remain and all sites of former scientific warehouses and docks will be given particular monitoring attention during clean-up.

g. If during clearing and removal operations, it is determined that working conditions are not safe, work will cease and personnel will be removed from the work location until the CJTG 8.8 makes a decision on procedures to be followed. The On-Site Radiological Safety Officer, and the NVOO Safety Advisor or his representative, will assist the commander in these decisions. Protective clothing and respirators will be available and used when indicated.

h. Following clearing and scrap removal operations, the AEC will evaluate the results obtained, will review the monitoring and sample analysis data, and will determine what, if any, additional restrictions or precautions may be needed in order to certify that Bikini Atoll is now safe for return of the population. This certification will be provided through the NVOO Safety Advisor.

## 6. Deployment.

a. Initial deployment of personnel and equipment will be made from Johnston Atoll on the first sea lift on or about 10 Feb. On-site capability will be established immediately upon landing on the Bikini Atoll.

b. Deployment of backup elements will be subject to call from CJTG 8.8.

c. Phasing for deployment to portions of Bikini Atoll other than Bikini and Enyu Islands will be determined on-site.

## 7. Reporting.

Final Radiological Safety Report will be made to CJTF 8 upon conclusion of Bikini restoration operations. Daily logs of rad-safe operations will be maintained and interim rad-safe reports will be furnished as required.