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HARDTACK REF
B.1.6

HEADQUARTERS
TASK GROUP 7.1
Joint Task Force SEVEN
P. O. Box 1663
Los Alamos, New Mexico

410989

11 March 1958

SUBJECT: Task Group 7.1 Radiological Safety Regulations for Operation HARDTACK

TO: Distribution

1. Transmitted herewith is a copy of the radiological safety regulations that will apply to all Task Group 7.1 personnel during Operation HARDTACK.

2. Your attention is invited to that portion of the regulations concerning film badges. Each individual in the Task Group will be issued a film badge that is to be worn at all times. Dog-tag chains will be provided for a convenient means of wearing the badges. If preferred, individuals may attach the film badge to the security badge rather than using the dog-tag chain. Film badges will be exchanged periodically by all personnel. In addition, upon return from any mission in a contaminated area, badges should be exchanged at the Rad-Safe Center.

3. It is realized that these regulations will not cover all cases that may arise; personnel assigned to Task Unit 6 will be available to advise and assist in handling the problem.

FOR THE COMMANDER:

Cordeon L. Jacks
CORDEON L. JACKS
Commander
Task Unit 6

1 Incl
Rad-Safe Regulations

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Paul Brown
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RAD-SAFE REGULATIONS

II. RESPONSIBILITIES.

A. The Commander, Joint Task Force SEVEN, is responsible for all radiological safety during Operation HARDTACK. The responsibility for general on-site (Eniwetok and Bikini Atolls) radiological safety operations has been delegated to the Commander, Task Group 7.1.

B. The Commander, Task Unit 5, Task Group 7.1, will exercise overall supervision and control for CTG 7.1 on all radiological safety matters.

C. Task Unit Commanders are responsible for the radiological safety of members of their task units. In addition, during operations in contaminated areas, project and party leaders are responsible for radiological safety of the parties and for compliance with these regulations.

III. RADIOLOGICAL SAFETY OPERATIONS.

A. TU-5 rad-safe support services will include:

1. Continuing surveys of the radiological situation at EPO, to include plotting and briefing facilities capable of portraying past and current radiological situations. Reports and maps will be prepared for distribution.
2. Monitoring assistance, training, and advice as requested.
3. Maintenance and issue of monitoring instruments and protective clothing as required.
4. Personnel dosimetry and records service (to include all of JTF SEVEN).
5. Decontamination facilities for personnel, vehicles, and equipment.

B. Exposure Guides and Dosage Control.

1. The total permissible exposures to participating personnel are as follows:
 - a. Gamma: 3.75 roentgens per consecutive 13-week period, with a maximum of 5.0 roentgens for the Operation. Personnel whose previous radiation dose history indicates that their total accumulated dose to 1 January 1958 is in excess of or equal to $5(N-18)$ roentgens, where N is the age on 1 January 1958, will under no circumstances be allowed to exceed the 5.0 R maximum for the Operation.
 - b. Alpha: 10,000 exposure units for any consecutive 13-week period computed by multiplying the average air concentration in the area of exposure in $\mu\text{Ci}/\text{M}^3$ by the hours of exposure. This is to be used in all cases where personnel are not using respiratory protection in an alpha-contaminated area. Natural alpha background is not included in the 10,000 units.
2. The tolerance level for vehicle contamination will be as follows:
 - a. 7 mCi/hr gamma plus beta inside and 7 mCi/hr gamma only outside.

- b. 500 c/m/55cm² fixed alpha. By "fixed" alpha is meant that no change in the alpha contamination level can be observed by swiping a 100 m² area. (55cm² is the area of the normal "Pee Wee" probe.)
 - c. 200 c/m/55cm² removable alpha.
3. The tolerance level for personnel contamination will be as follows:
 - a. 7 mr/hr gamma plus beta for outer clothing and shoes, 1 mr/hr gamma on skin or personal clothing. Personnel decontamination will be performed when these levels are exceeded.
 4. The tolerance level for equipment removed from contaminated areas will be as follows:
 - a. 7 mr/hr gamma only.
 - b. 500 c/m/55cm² fixed alpha. Decontamination will be performed in the field with portable decontamination equipment prior to return to the main decontamination station if the level exceeds 5,000 c/m/55cm².
 5. In the event that reasonable decontamination procedures cannot reduce contamination levels below those levels listed above, CTU-6 will issue appropriate instructions.
 6. All personnel will be issued film badges and charge-a-plates on arrival at EPG. The film badge will be worn at all times. In addition, badges will be exchanged after each entry into a contaminated area (exceptions to this will be made in the case of continuing access permits. See below). Lost badges should be reported immediately to TU-6. On return to home station badges will be turned in as part of the EPG check out procedures.
 7. TU-6 will process film badges and submit dosage records to Task Unit Commanders on a daily basis. In addition, special reports will be issued on all personnel reaching or exceeding the 2.0 roentgen cumulative dose total. Dosage information may be obtained informally at any time by calling the photo-dosimetry section at the TU-6 Rad-Safe Center.

2. Entry into Contaminated Areas.

1. Radex (radiological exclusion) areas are defined as follows:
 - a. Full Radex Area: Contamination level of 100 mr/hr or higher.
 - b. Limited Radex Area: Contamination level of 10 mr/hr but less than 100 mr/hr.
 - c. Non Radex Area: Contamination level less than 10 mr/hr.
2. Entry into a full radex area will require full protective clothing. In addition, a qualified monitor must accompany any party entering a full radex area. Entry into a limited radex area will require such protective clothing and monitoring support as is deemed necessary by the plotting and briefing section, TU-6.

3. Entry of personnel into contaminated areas (full and limited access) will require access permits. The access permits will signify that all rad-safe procedures have been complied with. These access permits will be issued to party monitors or party leaders by the plotting and briefing section, TU-6 at Rad-Safe Center.
4. Recovery and construction parties will be allowed to enter contaminated areas as desired dependent upon the current radiological situation. Actual control of early entry on D-Day will be exercised by the J-3 Section, Task Group 101.
5. Check points for control of entry into contaminated areas will be established by TU-6 as required. Normally, check points will be maintained at the Air Dispatcher's Office and the marine landing. Personnel departing for contaminated areas should have access permits prior to passing the check points. Upon return from a contaminated area, personnel and equipment will be monitored at the check points. Personnel or equipment found to be contaminated above the tolerance levels will be directed to the appropriate decontamination station. All personnel should proceed to the Rad-Safe Center to exchange film badges upon return from a contaminated area.
6. Task Unit Commanders may arrange for continuing access permits into contaminated areas for personnel in their Task Units. These continuing access permits are designed to allow frequent entry to and exit from a contaminated area without following all radiological safety regulations on each and every entry and exit. All requests for continuing access permits will be approved by CTU-6. These permits may be withdrawn at any time, depending on the radiological situation. In general, continuing access permits will be good only until another device is fired or certain individual cumulative dosage totals are reached.
7. Projects will provide their own monitors for entry into contaminated areas. In the event monitors cannot be provided by the project, arrangements will be made with TU-6 for supply of the required monitors. Monitors assigned to individuals or groups working in contaminated areas or with contaminated equipment during recovery operations will act in an advisory capacity to keep the recovery party leader informed of radiation intensities at all times. Since the party leader is responsible for the radiological safety of all members of his party he is expected to accept the monitor's advice and act accordingly. It is the responsibility of both the leader and the members of the recovery party to adhere to the limits established in these regulations.
8. Party monitors, and any others deemed necessary, shall be briefed by the TU-6 plotting and briefing section prior to receipt of an access permit.
9. TU-6 will train monitors for the various projects as required.
10. When eating or smoking in any contaminated area, sensible sanitary precautions should be taken.

III. MISCELLANEOUS.

A. All radioactive material brought into the Eniwetok Proving Ground, with the exception of Source and Special Nuclear Material, will be registered by project leaders with CTU-6. Information concerning the nature of the radioactive material,

source strength, and location (by building) is required. This information is desired primarily for the protection of the fire department in the event of fire.

B. No contaminated material will be removed from the EFG without the prior approval of CTG 7.2. All such materials or equipment which are to be removed will be monitored, packaged, labeled and loaded so as to satisfy pertinent regulations concerning shipment of radioactive materials. Such material that will travel by commercial means or unescorted shipment on MATS must be packaged in accordance with Interstate Commerce Commission regulations. TU-6 personnel will assist project and J-4 personnel in determining the packaging requirements.

C. Task Unit Commanders are responsible for providing CTU-6 with lists of qualified monitors within their Task Units. CTU-6 will assist the Task Unit Commanders in qualifying personnel if so desired.