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REVIEWED BY J. Diaz 10/18/88  
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HEADQUARTERS  
TASK GROUP 132.1  
Joint Task Force 132  
Los Alamos Scientific Laboratory  
J Division, P.O. Box 1663  
Los Alamos, New Mexico

1711  
DATE 10/18/88  
REVISION 2  
RETURN

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Subject: Report of Evacuation Plans Conference  
1cc: COMMANDER  
JOINT TASK FORCE 132  
Washington, D. C.

JUN 24 1952  
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Mr. Warrick  
received 8/10/52

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1. On the 10th of June, 1952, a conference was held at the Los Alamos Scientific Laboratory for the purpose of discussing IVY evacuation planning in so far as such plans are dependent on effects predictions of blast, thermal, water waves, and radiological conditions. The agenda is attached as enclosure #1.

2. It was the consensus of the recognized authorities in the respective fields that results expected at Eniwetok from Mike shot are, in brief, as follows:

#### YIELD

Expected 4 - 5 MT. Reasonably possible maximum 10 MT. Above 10 MT in the region of remote possibility.

#### BLAST

(Authority: Lt. Col. Francis Farsel, Group Leader, Blast Measurements Group, Los Alamos Scientific Laboratory)

- 5 MT yield - On Eniwetok 0.7 p.s.i.
- 10 MT yield - On Eniwetok 0.9 p.s.i.
- 40 MT yield - On Eniwetok 1.5 p.s.i.

For p.s.i. effects on Parry, add a factor of 15% to above Eniwetok predictions.

0.7 p.s.i. - Breaks glass; tears loose canvas. Little, if any, buckling of metal buildings. Peak equals wind of 40/50 mph but of momentary duration comparable to a short gust. For detailed calculation:

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Recommendations for specific equipment protection, see Annex "A".

Conclusions: Structural damage on Parry and Eniwetok very minor. Take such measures as are reasonably easy to take - labor wise, time wise, and small expense.

THERMAL

(Authority: Lt. Col. Francis Porzel - representing the Thermal Group of Los Alamos Scientific Laboratory)

5 MT - 10 MT will produce 1 caloric per cm<sup>2</sup>. (It takes about 6 calories per cm<sup>2</sup> to char wood). For detailed thermal effects, see Annex "A".

Conclusion: No precautionary measures are required on Parry and Eniwetok. Will not damage motor vehicle tires. No effect on vapors coming out of gasoline storage tanks.

WATER WAVE EFFECTS

(Authority: Dr. Roger Revelle, Scripps Institution of Oceanography)

Engobi	100 ft. wave
Rojoa	50 ft. wave
Runit	30 ft. wave
Japtan	17 ft. wave
Parry	17 ft. wave
Eniwetok	16 ft. wave

Breakers will be twice size; not dangerous at Eniwetok, Parry, or Japtan. Amount of yield above 5 MT has no effect as size of wave is limited by depth of lagoon. After three or four waves, size falls off rapidly. Engobi will be covered by a wash. None of Eniwetok, Parry, or Japtan will be covered by wash.

Small boats hauled up on 9 ft. high beach are safe; however, a more practical solution presented was that of anchoring the craft in deep water not less than 50 feet without any other special precautions.

Conclusion: There is no expected danger ashore from wave action on Eniwetok, Parry, or Japtan. No danger is anticipated to anchored (m-1) craft except possible anchor drag.

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EXTRACT

(Authority: Commander Russell W. Hayward, Headquarters, JRF 194)

Maximum expected on Eniwetok and Parry with worst probable condition is delayed airborne contamination that could reach the level of the island to 4r/hr after 10 hours or could be out a distance of 180 miles.

Rad safety limits of exposure are: 1000 r on life time basis. Total allowable one time dosage for IVY is 3r measured gamma only with special provision for pilots of sampling aircraft of 20r measured gamma only. A one time dosage of 25r is currently used in civil defense concepts of operations but is not applicable as a general guide in IVY unless as an accident. However, no one is expected to be exposed to radiation rates approaching 4r/hour. If such levels as these should be experienced on the islands of Eniwetok and Parry, a level of 4r/hour after 10 hours does not actually decay very rapidly according to calculations for such delayed fall out. However, from actual field experience, it has been found that weathering (i.e., wind, rain showers, etc.) of such fall out on the ground reduces the levels by more than 50% in one day or according to tables:

- 10 hours - 4 r
- 20 hours - 2 r
- 40 hours - 1 r
- 80 hours - .5 r

Little is to be gained by covering large regular objects since when the reentry can be attempted for persons, levels of radiation on the equipment will in general be low. However, where equipment open to airborne contamination is complex, such as radio consoles or power control tanks or motor generators, fall out contamination can be materially reduced from collecting in such inaccessible spots by some covering. Hoods, when closed, or vehicle engines should suffice to reduce oily, greasy surfaces

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from collecting and holding contamination. For all other surrounding areas were weathered to a so insignificant level. Food in containers is considered safe from contamination. In general, the use of protective clothing should govern in attempting to hold down contamination spots in inaccessible areas where personnel were later work, and this should be balanced against cost of manpower and material in preventing contamination.

Salvage canvas, where available, should be used to cover equipment which has inaccessible spots (perhaps oily or greasy spots) which are likely to collect airborne fall out and which will be difficult to decontaminate. It may be necessary to procure additional material for covering, should insufficient salvage material be available.

GENERAL

With regard to blast, thermal, fall out hazards, such measures as are relatively easy to take, labor-wise, time-wise, and inexpensive, should be taken. With the exception of special equipment such as electronics gear, the hazard does not warrant a great amount of labor, time, or expense for the protection of structures, construction equipment, vehicles, and so forth.

Dr. Graves expressed his opinion that the island can be re-entered without hazard in 2 - 6 days after Mike shot.

Dr. Draves concurred in the above conclusions. Among other qualified scientific personnel present who offered no objection to the conclusions as they pertained to their respective scientific fields were:

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Dr. Bergen Sjöden, Dr. Fred Reinas, Dr. George M. ...  
... of the Los Alamos Scientific Laboratory, as well as Prof  
J. S. Diaz of the University of Maryland, Institution of Fluid  
Dynamics.

*Duncan Curry, Jr.*

DUNCAN CURRY, JR  
Chief of Staff

LC/PHE/by

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