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ATOMIC ENERGY COMMISSION
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Holmes & Narver, Inc.
824 South Figueroa Street
Los Angeles 17, California

Subject: PLANNING FOR OPERATION CASTLE - CONTRACT AT(29-2)-20

411361

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
1ST REVIEW DATE: 2-25-97
AUTHORITY: DADC DADC DADC
NAME: [illegible]
2ND REVIEW DATE: 10-13-97
AUTHORITY: ADD
NAME: [illegible]
DETERMINATION (CIRCLE NO. BELOW)
1. CLASSIFICATION RETAINED
2. CLASSIFICATION CHANGED TO:
3. CONTAINS NO DOE CLASSIFIED INFO
4. COORDINATE WITH:
5. CLASSIFICATION CANCELLED
6. CLASSIFIED INFO BRACKETED
7. OTHER (SPECIFY):

Gentlemen:

Confirming the discussions held at a conference at Santa Fe Operations Office on December 8, 1952, at which your Messrs. Van Dine, David Narver, and Gilleran were present, you are requested to proceed at once with the studies or investigations outlined below. In this connection, you are advised that it is now proposed that Castle be postponed from the fall of 1953 to the spring of 1954 and that there will be a total of six shots instead of four. These are listed tentatively as follows:

Location	Sponsor	Type
Bikini, Eniuman Group	Livermore	Megaton range, on ground
Bikini, Lagoon	LASL	½ megaton, on barge
Bikini, Lagoon	LASL	Megaton range, on barge
Bikini, Lagoon	LASL	Megaton range, on barge
Eniwetok, Ruby	Livermore	½ megaton, on tower
Eniwetok, Flora Crater	LASL	Megaton range, on barge or pier

a. The four devices to be detonated on barges will be assembled on the barges alongside a pier at Parry Island and will then be towed or lifted by LSD to the point of detonation. You are requested to study and prepare preliminary plans and estimates for a pier suitable for such assembly work. It is probable that it will be necessary to tie up and work on two barges simultaneously, and the pier should be capable of supporting the heaviest cranes in use at the jobsite. Your study should include consideration of use of a portion of the already-designed deep water pier.

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b. Investigate the availability and cost of barges suitable for use as described. Barges in the range of 200-1000 tons capacity should be considered, and steel barges are much to be preferred.

c. Determine the best locations in Bikini lagoon for anchoring the shot barges for detonation, based on the need for smooth water with a depth of not less than 15 fathoms. It should be assumed that communications and signals to the barges will be by radio. Coupled with this requirement is the determination of a suitable location for a television tower similar to that used for Ivy-Mike which will be, in essence, a line-of-sight repeater station from the barge to the control point aboard ship for the three barge shots; hence, it should be so situated as to suffer no damage from the barge shots or the Eninman shot.

d. Determine Livermore requirements for the shot tower on Ruby. In this connection, it is desirable to use the 200-foot, 200-ton tower already in stock at Eniwetok, with modifications necessary to accommodate the freight and personnel elevators used at the Nevada Proving Ground.

e. Make a study to determine the most feasible means of decontaminating Gene, Helen, Irene, and the connecting causeways to radiation levels suitable for living on the site. It may be possible that removal of the upper few inches of soil will accomplish this; on the other hand, it may be found necessary in some areas to cover the contaminated surface with fill from an uncontaminated source. The services of health physicists from LASL will be required by you for consultation and on-the-ground experiments, and you are requested to notify us as soon as possible when you desire such services. It is suggested that your representatives consult initially with these people at Los Alamos to determine the best method of attacking the problem. The availability and cost of dredges should be investigated should filling be thought necessary. Actual decontamination should be deferred as long as possible in order to allow radiation to decay to lower levels and still have time to accomplish necessary construction work at the site as indicated immediately below.

f. In view of the depth of the Flora crater it is believed that a barge, rather than a pier, must be used in order to establish a detonation point sufficiently far from Station 200, which will be used again. You are requested, however, to determine the

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greatest practicable distance from Station 200 obtainable through construction of a pier, or combination causeway and pier, out to the point where the coral reef is sheared.

Insofar as construction is concerned, it is presently contemplated that coaxial cable will be used instead of a Station 204. This again brings up the question of a dredge for obtaining fill for coax shielding. Other construction contemplated, aside from a "Station 1" on a pier or barge, would be a 300-man camp, an air-strip, pier and ramp facilities (probably at the crater), a 375-foot TV tower similar to that used for Ivy-Mike, and repair of the existing causeway.

g. It will be necessary to use generators of stable characteristics at Gene and Eninman. Since the Fairbanks-Morse generators in the old Parry powerhouse are no longer required for Parry, it is suggested that they be used for this purpose, supplemented by portable 75 KW generators for camp loads if required. It is considered advisable, however, to retain one Fairbanks-Morse generator for future installation in the Janet powerhouse to replace the one expended on Gene during Ivy.

h. Foundation investigations should be made as and when required for the 200-foot tower on Ruby, the TV towers on Gene and at Bikini, and the "Station 1" and "Station 200" locations in the Eninman group, Bikini, in order that foundation piling may be ordered.

Please forward the results of the above studies or investigations at your early convenience as completed; a consolidated report is not required.

Very truly yours,

P. W. Spain, Field Manager
Eniwetok Field Office

CC: AEC Res. Engr., Eniwetok
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