

# DISPOSITION FORM

780314

CLEAN

6.0

File

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL

SUBJECT

UNIT  
ENJEBZ

D 626

FCZ

Enewetak Cleanup Decisions

TO FC  
FCD  
FCL  
✓ ECP  
FCC

FROM FCZ

DATE 14 Mar 78

CMT 1

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7.11

1. Attached is a memorandum outlining what I see as gut decisions to be made at this time in relation to the Enewetak Cleanup.
2. I request your thoughts, comments, or additions by 10 Apr 78.

1 Encl  
as

CHARLES J. TREAT  
COL, Ord C  
Special Assistant

FROM  
CIC

3108

SECRET

MEMORANDUM FOR RECORD

TO: FC

SUBJECT: Enewetak Cleanup Resolution Conference Decisions

1. I called Roger Ray to discuss possibility of an early April conference for resolution of cleanup decisions.

a. Roger stated he would not be available for an early April meeting. He has been requested to go on a HICOM sponsored trip to Ujelang. The plan is to arrive on Enewetak on 11 April and depart for Ujelang by boat on 12 April. Roger anticipates return to Enewetak in time to catch 19 April aircraft out.

b. LLL has developed dose assessment model that permits plug-in of various assumptions. Roger feels that assessments will be available in April for northern residence and for the contamination number for agriculture islands.

c. The question of 40 pCi/g versus 50 pCi/g for Enjebi has been discussed with DOE, Germantown. I gathered that they are not willing to change task group levels but are willing to consider a clean to 50 - plow to 40 concept. Roger is waiting for an answer before replying to our message.

d. The radiological characterization, including data analyses, will be completed sufficiently to permit decision making. Roger feels that, essentially, we are at that point now. I would tend to agree.

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(1) The in-situ survey has been completed for all islands except Louj (Daisy), Bokinwotme (Edna), Mijikadrek (Kate), Taiwel (Percy), Bokenelab (Mary), Elle (Nancy), Eleleron (Ruby), Bijire (Tilda), Lojwa (Ursula) and Runit (Yvonne).

(2) Except for Bijire (Tilda) and Lojwa (Ursula) these are all food gathering islands. Neither NVO-140 nor aerial survey data indicate any expectation that anything over 400 pCi/g is to be found on any of these islands (except Runit).

(3) Bijire (Tilda) in-situ survey is 50 percent complete. Lojwa (Ursula) will probably not be surveyed. (Survey would be practicably impossible in camp area.)

*Then - how will we know if satisfactory for residence?*

(4) Runit (Yvonne) has had some in-situ survey completed (though exact extent has not been provided).

(5) It appears that data for cleanup decisions will be available for an April meeting. Complete data reduction for some islands may not be available but these, such as, (Bokinwotme, Taiwel, Eleleron) are not more than overgrown sandbars and should not effect hard cleanup decisions.

e. I asked about resolution of over 400 pCi/g spots on Lujor (Pearl). Roger agrees that there are survey areas on Lujor which are probably over 400 pCi/g. If clean Lujor at all these will disappear. If decision is not to clean Lujor then these areas must be defined and cleaned. Roger also mentioned possible undesirability of leaving Lujor uncleaned if residence on Aomon-Bijire-Lojwa is permitted. He mentioned possibility of cleaning only the over 400 and plowing remainder, (should decision be to not clean to agricultural level).

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f. I asked about fission product levels on Aomon-Bijire-Lojwa and suitability for residence. Roger indicated levels are very low and suitable for residence.

2. I discussed Pilot Soil Removal Project and importance of time - distance data to any decisions on soil cleanup. COL Mixan indicated they understood importance of good data. He also indicated that to do a careful job of obtaining data, analyzing data, and preparing data for presentation the later in April the meeting the better for JTG.

3. As I see it the decisions to be made at this conference are as follows:

a. How much soil cleanup on Runit?

(1) Alternatives appear to be:

(a) Clean all over 400 pCi/g, surface or subsurface.

1 Advantages:

a Complies with literal wording of AEC Task Group guidelines.

b Confines most highly contaminated soil (and probably greatest curie level of transuranics) found on the atoll in the soil-cement mix in the crater.

2 Disadvantages:

a Expends resources to no long term resettlement benefit.

b Full extent of requirement probably cannot be known until execution.

(b) Clean only very highest levels (hot spots), surface or subsurface (level to be decided).

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## 1 Advantages:

a Confines extremely high contamination levels in the soil-cement mixture in the crater.

b Reduces resources required compared to all over 400 alternative.

## 2 Disadvantages:

a Does not comply with literal wording of AEC Task Group guidelines.

b Expends some resources to no long term resettlement benefit.

c Full extent of requirement probably cannot be known until execution.

d Cut off level is difficult to define other than some arbitrary number.

(c) No cleanup of Runit.

## 1 Advantages:

a Permits reallocation of resources to projects of higher long term benefit.

b Conforms to purported "intent" of AEC Task Group guidelines.

## (2) Discussion:

(a) The decision to clean or not to clean Runit is critical to other soil cleanup decisions. Resources committed to Runit cannot be committed to Enjebi or Lujor. Yet, if Runit is in fact quarantined, resources committed to Runit have no resettlement value. There is also a tough political decision involved. We can be criticized for not following the EIS and the AEC Task Group guidelines. We can equally be criticized for blindly following the EIS and AEC Task Group guidelines and expending resources to no benefit.

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(b) Roger Ray, and other DOE representatives, have several times expressed their opinion that any expenditure of resources on Runit cleanup is wasted. DOE is in the position of our radiological cleanup advisor for this operation.

(c) According to Roger Ray, there is no scientific rationale to establish a contamination level above which cleanup is required, other than the 400 pCi/g number. To cleanup "hot spots" above 1000, or 5000, or 10,000 pCi/g is an arbitrary decision, not supported by scientific rationale.

b. Level of cleanup to be achieved for Enjebi (Janet).

(1) Enjebi is listed in case 3 as only a food gathering island (clean only to below 400 pCi/g). This criteria would require no soil removal from Enjebi.

(2) The desirability of cleaning Enjebi to residential level (below 40 pCi/g) has been recognized.

(3) Estimate of volume of soil to be removed is Enjebi is cleaned to below 40 pCi/g was about 36,000 cu yd, 2800 truck loads, 471 boat loads. Estimate of volume to clean below 50 pCi/g was about 8000 cu yd, 615 truck loads, 102 boat loads.

(4) Roger Ray indicated that it may be acceptable to clean to 50 pCi/g level and then plow to achieve the 40 pCi/g level.

c. Level of cleanup to be achieved for Lujor (Pearl).

(1) Lujor is planned for agricultural use (2,331 coconut trees are to be planted).

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(2) The contamination level permissible to leave for an agricultural island is being defined by LLL.

(3) Assuming that the permissible level remains at about 100 pCi/g estimated volume of soil to be removed is about 19,000 cu yd, 1462 truck loads, 244 boat loads.

(4) Alternatives appear to be:

(a) Clean to agricultural level.

(b) Clean to x level, plow to attain agricultural level.

(c) Redesignate as "food gathering". Do not clean (except over 400 if any).

1 Designate other islands (such as Mijikadrek, Kidrinen, Aej, Billae) as agricultural islands.

2 Plow to reduce dose potential. (This may be desirable because of accessibility from Aomon.)

d. Disposal alternatives for contaminated soil. Regardless of decision on level for cleanup of Runit the contaminated soil brought from other islands (Boken, Enjebi, Lujor, Aomon) will be at contamination levels lower than those remaining in place on Runit. Expending funds and resources to entomb soil contaminated to levels less than 200 pCi/g while leaving soil contaminated to double, or higher, levels would not appear to be cost effective. Nor would it be radiologically sound. Use of soil contaminated to lower levels to cover soil contaminated to higher levels would reduce the availability to man of the higher contamination levels. Yet to fail to entomb the contaminated soil in the crater would be a violation of the EIS. In this case we can be wrong no matter what we do.

*next  
return  
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have  
~ 7500  
yds of  
contamin  
debris*

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Should the decision be to not entomb soil in the soil-cement mix, the problem of disposal of contaminated debris remains. Can we put the debris, unconfined, in the crater? Must we make enough soil-cement mix to cover debris in the crater? Is there some other alternative for debris disposal, such as bury on Runit?

e. Radiological feasibility of residence on the Aomon(Sally)-Bijire(Tilda)-Lojwa(Ursula) Complex and Dri-Enjebi desires pertaining thereto. This is primarily a TTPI/DOE decision but is of interest in how it may impact the cleanup project. Will there be less cleanup work or more cleanup work involved in making the complex suitable for habitation? Do bunkers and slabs, now planned to remain in place, have to be removed? If additional work required greatly exceeds that now programmed, there will have to be a resource trade-off.

f. Disposal of brush cleared in preparation for soil removal. Some contaminated soil will inevitably be along with brush. The brush may contain uptake of contaminants, fission products. Burning the brush may result in "hot spots" of contamination in the ash-soil mixture. Guidance has been promulgated to windrow brush for burning. After burning the ash area is to be surveyed and any transuranic contamination levels exceeding the level for that island to be excised. Any "hot spots" of fission product concentrations would also be excised. This guidance has the effect of denying most of the soil nutrient value of the brush. It might be better to simply allow the brush to decay. Or it may be more desirable to move the brush to Runit and bury or allow to decay there. The guidance needs to be re-evaluated.