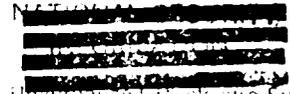


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Unannounced disclosure Subject for Criminal Sanctions

JOHN T. ...
Washington 25, D.C.



J-3/729.3

11 DEC 1953

SUBJECT: Radiological Hazards in the Marshall Islands Area During CASTLE

1 Dec 53

TO: Commander in Chief, U.S. Pacific Fleet
c/o Fleet Post Office
San Francisco, California

RG 326 US ATOMIC ENERGY
COMMISSION C-2

Location LANL D-41

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Folder Doc # 863

Castle Radiological Safety

1. References:

a. CINCPACFLT SECRET letter, subject as above, dated 31 October 1953.

b. CJTF SEVEN SECRET letter to CINCPAC, subject: "Schedule of Messages Concerning Detonation During CASTLE", dated 3 December 1953.

c. CJTF SEVEN SECRET letter to CINCPAC, subject: "Safety Measures During Operational Phase of CASTLE", dated 11 December 1953.

2. Information presented in your letter has been considered in the revised CASTLE radsafe plan (reference 1c). Comments on critical paragraphs and details on primary matters of interest are presented below for your information.

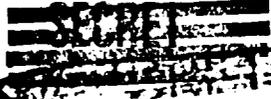
3. Reference paragraph 2 of your letter.

a. In consideration of your responsibilities and because of other task force developments since July 1953, the cloud tracking effort on Operation CASTLE has been augmented. It is considered that the areas of most concern, in sequence of priority interest, are as follows:

(1) The down-wind (trade wind) region from Ground Zero (GZ). This area would include both the task force camp at Eniwetok and the native populated atoll of Ujelang.

(2) The up-wind (trade wind) region from GZ. This is the region from which secondary fall-out could occur on the task force camp site.

(3) The up-wind (trade wind) region from the native populated atolls in the southeast quadrant. This area is of concern for the same



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JOHN T. ...
Washington 25, D.C.

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reason as 3a(2) above, but considered of less priority due to its more favorable location with respect to GZ.

(4) Air and surface routes through Wake and the Marshall Islands. These areas are considered of least priority because of separate advance plans to close or sweep the most questionable areas.

b. Cloud tracking has been planned accordingly as follows:

(1) In support of 3a(1) above, starting at H Hour, one aircraft will maintain a holding pattern for approximately 5 hours down-wind from GZ to establish the drift of contamination toward Eniwetok and/or Ujelang. In addition, the cloud sampling team will report on drift and intensity of all segments of the cloud from H to H plus 6 hours. Further, it is planned that all operational and test aircraft will report any encounter with radiation while engaged in their assigned flight missions. The totality of information above, together with the forecast trajectories, should be sufficient to present a reasonably clear indication of future developments of the cloud, and in sufficient time to verify decisions relative to safety of personnel outside the shot area. This information will also be used to formulate a decision relative to the air and surface routes through the Marshalls.

(2) In support of 3a(2) above, from approximately H plus 5 hours to H plus 12 hours, one aircraft will search up-wind in a 30 degree sector, apex on GZ, and centered on the average trade-wind for approximately 500 NM.

(3) In support of 3a(3) above, from approximately H plus 12 hours to H plus 18 hours, one aircraft will search up-wind in a 30 degree sector as above, with apex on Rongerik Atoll.

(4) In support of 3a(4) above, from approximately H plus 18 hours to H plus 24 hours, one aircraft will be vectored along the routes through Wake, or through the area forecast to be up-wind from these routes, as appropriate.

(5) Two additional aircraft are planned to search from H plus 24 hours to H plus 36 hours, and from H plus 36 hours to H plus 48 hours. The flight tracks of these aircraft will be determined after the shot and will be based upon the results of the first 24-hour period and forecast meteorological conditions.

c. Other features of the task force plan remain unchanged except that appropriate comments relative to native evacuation are presented below as they apply to pertinent paragraphs of your letter.

4. Reference paragraph 4, your letter, action has been taken to inform CINCPAC by reference 1c of the hazards to be introduced into the Pacific Area during CASTLE.

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5. Reference paragraph 5, your letter, similar advisories (reference 1b) are planned again for Operation CASTLE. Particular attention is invited to the H minus 18 hour message. Due to shot times in the early morning hours, and the necessity for final shot decision briefings to take place after all daylight weather information has been collected and analyzed, it is considered that a tentative H minus 18 hour planning forecast is necessary. In the event the H minus 18 hour forecast is significantly in error, a modification advisory will be dispatched after the commander's final shot decision briefing at about H minus 6 hours.

6. Reference paragraph 6, your letter, the following comments and recommendations are made:

a. Temporary evacuation of native populated islands is not recommended as a pre-shot measure.

b. Airborne survey of the Hawaiian, Marshall, Caroline and Marianas Islands, supplemented by ground checks as practicable, in cooperation with the Atomic Energy Commission is considered a valuable adjunct to the radsafe plan. Overlap of information in support of this effort will be furnished by CJTF SEVEN to the AEC representative in the Forward Area such that actual survey flights will be necessary only in the event fall-out is forecast or known to exist in the area in question. It is considered that such coverage is practicable and will be extremely useful to all commands and agencies concerned with cloud trajectory analysis in the Pacific Area.

c. Film badge survey of Wake and Johnston Islands. This type survey is considered desirable if for no other reason than to provide positive evidence that no contamination was encountered. Since the film badge is considered the only legally acceptable record of radiation exposure, it is suggested that such a survey should be extended to significant native populated atolls. If desired, task force film badge supply and processing facilities can be made available to assist.

d. Reconnaissance flights by security aircraft of TG 7.5 to clear itinerant shipping from the predicted cloud passage area up to 600 miles on shot minus 1 to 2 days are considered a valuable radiological safety precaution. Such flights are planned again for CASTLE. It is suggested that, in the interest of reducing the number of ships to be cleared from the area, CINCPACFLT effect appropriate advance diversions of surface shipping wherever practicable. As a first approximation, it is considered that the sector area centered on ground zero clockwise from 225° true to 90° true, maximum distance 500 NM, should be avoided on shot day. Task force advisories may be used by CINCPAC to inform operational control authorities of further routing modifications as required.

e. It is anticipated that recommendations will again be made at this headquarters reference closing of air routes. Consequently the Administrator should be informed of possible interference with the routes.

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through Wake and Marshall Islands for specified periods of time and that arrangements should be made for closing or modifying these routes on short notice in the event such action becomes essential. It is also anticipated that, for operational reasons, both Eniwetok and Bikini air bases will be closed for short periods before and after each detonation. Appropriate advisories to CINCPAC will include information supporting such action.

7. Reference paragraph 7, your letter, the comments below refer to the numbered paragraphs of your letter:

a. Reference paragraph 7a(1), information from atomic shots in Nevada indicate that clouds which reach the tropopause drop out a unique and major portion of the fall-out at a distance on the order of 100 miles or less from GZ. On the assumption (as on IVY) that the tropopause acts as a trapping barrier for all contamination at or above this level, it is expected that high yield shots should similarly react, extending perhaps to a slightly greater horizontal distance due to the fact that the Pacific tropopause height is higher by approximately 15,000 feet. On the assumption that the trapping action of the tropopause is not so complete as to prevent a gradual sifting of material from above it, the wide and distant area coverage by NYOO of AEC is considered essential. The weak point of the first argument lies in the fact that, due to operational difficulties, none of the high yield shots in the Pacific have been sufficiently documented in this respect. Consequently, our operational planning anticipates a remote possibility of adverse conditions out to populated atolls.

b. Reference paragraph 7a(2), it is suggested that the augmented cloud tracking effort outlined above should alleviate the difficulties presented.

c. Reference paragraph 7c(1), the decisions to shoot will be reached with the understanding that no health hazards to units and populated islands of the Pacific are forecast. It is not believed the decision can be reached with the understanding that no rad-safe conditions conducive to possible adverse criticism will ensue. The differentiation made here is due to limitations on weather and rad-safe forecasting techniques and due to the many and diverse interpretations of rad-safe conditions which are adverse.

d. Reference paragraph 7c(2), CJTF SEVEN pre-shot advisories, (based on forecasts) will not contain conclusions requiring evacuation of populated islands to avoid a health hazard. Information will necessarily be included relative to the probabilities of something less than a health hazard occurring.

e. Reference paragraph 7c(3), Eniwetok and Ujelang are considered the most critical sites, and since contamination of these sites will likely be a collateral occurrence, all task force ships will probably be engaged in danger area evacuation efforts. In the event cogent and compelling post-shot reasons arise requiring temporary evacuation of any populated island

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in the Marshalls outside the danger area, the task force security ships would have to be used.

f. Reference paragraph 7d, an evaluation of CINCPACFLT IVY measures is included in paragraph 6 above.

g. Reference paragraph 7f, action has been taken to request Headquarters, USAF (AFOAT-1) to furnish the desired information on CASTLE. This request contained a recommendation for direct contact between your headquarters and AFOAT-1 to arrange the details.

h. Reference paragraph 7g, augmentation of the cloud tracking effort should alleviate the difficulty presented.

i. Paragraph 7n, noted in its relation to paragraph 7a above.

P. W. CLARKSON
Major General, U.S. Army
Commander

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