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UNITED STATES
ATOMIC ENERGY COMMISSION
ALBUQUERQUE, NEW MEXICO

404910

T-7

AUG 20 1953

Dr. Lester Machta
Special Project Section
Weather Bureau
U. S. Department of Commerce
Washington, D. C.

BEST COPY AVAILABLE

Dear Doctor Machta:

In late 1948 the Armed Forces Special Weapons Project undertook for the Atomic Energy Commission a study to determine the physical feasibility of continental atomic tests. This study was designated "Project Nutmeg." In general, the study transposed phenomena concerning atomic clouds and fallout as observed in the tropics to various continental locations. The difference in meteorology between the Marshall Islands and continental United States being one of the primary factors considered.

In connection with the current review of the use of the Nevada Proving Grounds, I feel it appropriate that the assumptions and various factors, as considered in the original study, be reevaluated in light of experience gained from actual continental nuclear detonation, and that another look be taken at other possible continental test sites to ascertain if the previous conclusions are still valid. In this connection, report on Project Nutmeg, (Page 42), states:

> "Conclusions: It must be concluded, therefore, after transposing the results of the Eniwetok tests to a continental environment that:
>
> a. Tests conducted within the continent of the United States at properly engineered test sites, under proper meteorological conditions, will result in no harm to population, economy or industry.
>
> b. The decision to hold future tests within the continent will devolve, not upon the physical feasibility of conducting the tests without harm, but upon the elements of public relations, public opinion, logistics and security.
>
> c. If the absolute certainty of negligible fall-out on inhabited areas can not be accepted, there yet remain sites within the United States where absence of fall-out on populated areas can be assured.

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d. If second order effects of fall-out, such as those influencing biological processes of marine organisms in coastal waters, cannot be accepted, there yet remain sites within the United States, along the southeastern seaboard where the transport of radioactive material by ocean currents into fishing banks, oyster beds, salt marshes, coastal sounds and embayments may be avoided."

Confirming Mr. Reeves' telephone conversation with you, it is requested that you obtain a copy of report on Project Nutmeg from our Division of Military Application in Washington, and reevaluate the meteorological considerations and related phenomena which led to the selection of the Nevada Proving Grounds. It is also requested that you compare from a meteorological standpoint the present Nevada site with other possible locations, particularly those discussed in Paragraph 7 of Part III (Page 50) of the Nutmeg report. In addition to the meteorological conditions considered in the Nutmeg study, the evaluation should probably include the prevalence of clouds. As you are aware, cloud tracking and sampling are important elements of the test operations, and even in the relatively cloud-free southwest, we have experienced some difficulties due to cloud cover.

Although we would appreciate having your comments as soon as possible, this request should be considered secondary to your work as a committee member as covered in the Panel "assignment" memorandum of August 10, 1953. I am requesting Colonel Holzman to make a similar evaluation and suggest that possibly you and he collaborate in this project. I have requested Dr. Bugher to make an evaluation on effects of fallout, including possible effects on marine life if occurring from a location on the eastern seaboard.

Very truly yours,

Original signed by
[illegible]

Carroll L. Tyler
Manager

CC: Brig. Gen. K. D. Fields, Director
DMA, AEC, Washington, D. C.
Dr. J. C. Bugher, Director
Div, Biology and Medicine, AEC
Washington, D. C.

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