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UNITED STATES  
ATOMIC ENERGY COMMISSION

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WASHINGTON 25, D. C.

December 28, 1953

IN REPLY REFER TO:

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~~RESTRICTED DATA~~

Dr. Willard F. Libby  
Professor of Chemistry  
University of Chicago  
Chicago, Illinois

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by the Atomic Energy Act of 1954. Its transmittal  
to any person, in any manner, without the  
written approval of the Atomic Energy Commission  
to an authorized person is prohibited.

Dear Dr. Libby:

This is in reply to your telegram of December 18 indicating the  
cancellation of certain programs during IVY and the need for their  
reactivation during CASTLE.

The raft program was in operation during IVY. Good data were obtained  
for the fallout in the lagoon. In addition to the rafts, collecting  
devices were placed on buoys and set in 100 and 150 mile arcs from  
the shot island. Stations were also planned at the 30 mile arc but  
were eliminated on instructions from the Office of the Commander in  
Chief Pacific Fleet since they were considered to impose an  
unacceptable limitation on security from submarine penetration.  
Unfortunately the fallout occurred in a sector different from the  
predicted one, and the buoys at 100 and 150 miles did not collect  
significant amounts of fallout.

During Operation CASTLE, program 2.5a and 2.5b will establish raft  
collecting stations within the lagoons and also buoys in circles  
around the shot islands at 5, 10, 20, 35, and 50 mile radii to provide  
for 360-degree coverage. In addition, supplementary stations will  
be placed in that sector where the fallout is predicted to occur.

Cloud height estimates were made during IVY by photographic and  
theodolite measurements. These programs will be continued during  
CASTLE.

The Raywind program was in operation during IVY and considerable  
data were collected. This program will also be continued during  
CASTLE.

CLASSIFICATION CANCELLED BY DOE 5650.2, III-12 (ADMIN)

Reviewed by Jose Diaz 4/6/81  
Wilbur A. Strauser 4/8/81  
By: W. Trench 6/8/87

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Received in Office of General Counsel  
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RESEARCH & APPL

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Dr. Willard F. Libby

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It seems, therefore, that the difficulties with the IVY results did not lie in the lack of planning but in the errors of prediction on which operations of this sort must always be based. The CASTLE raft and buoy program will certainly give us data from the fallout quadrant but the price paid is bound to be that of thinner coverage of the area of importance. Similarly, some difficulties were encountered with the IVY cloud height photography due to uncertainty as to the location of the photographic plane at the time. The CASTLE operation should benefit by the prior IVY experience.

Sincerely yours,

John C. Bugher, M.D.  
Director  
Division of Biology and Medicine

cc: Mr. Strauss  
Mr. Nichols  
Gen. Fields, DMA



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