

**UNITED STATES
ATOMIC ENERGY COMMISSION**
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EM:JCB
IN REPLY REFER TO:

499

December 28, 1953

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

~~RESTRICTED DATA~~
This document contains data as defined in the Atomic Energy Act of 1954 or the regulations promulgated thereunder to which special access controls are 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 AUTHORITY OF DOE/OC *DOE 5650.2, III-12 (ADMIN)*

Jose Diaz 4/6/81
REVIEWED BY DATE
Wilbur A. Strouser 4/8/81

By: *W. Trench* 6/8/87

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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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