

~~SECRET~~

Carl Buckland, E-1

October 20, 1961

W. R. Kennedy, E-6

410591

"CLOSE IN FALLOUT" FROM CASTLE BRAVO

E-6

The following measurements were made at various times at the places indicated following the March 1, 1954 detonation at Bikini Atoll. Speed of movement to all points is based on a measurement by a recording gamma meter located on Niwetik Island, Rongerik Atoll. The meter indicated start of arrival at H + 7-3/4 hours, with an estimated peak reading at H + 8-3/4 hours. The distance is 135 nautical miles, so a mean speed of 17 knots has been used in the calculations. Extrapolated decay has been based on the T^{1.2} rate. No allowance has been made for weathering prior to measurement, so the values are probably low.

The bomb was a surface burst of 15 Megatons, ~~SECRET~~ The "hot line" of the fallout pattern was somewhat to the north of all the locations listed below. Kabelle Island, Rongelap Atoll, is the closest to the "hot line", but still probably some distance from it.

<u>Island Location</u>	<u>Date-time</u>	<u>Reading R/hr</u>	<u>Distance sea miles</u>	<u>Estimated Arrival time</u>	<u>Estimated Peak reading</u>	<u>Estimated D₁₀₀</u>
Rongelap	D + 7	375	103	H + 6	80 R/hr	600 R
Kabelle	D + 25	1000	108	H + 6.35	235 R/hr	7500 R
Niwetik	D + 7	260	135	H + 8	11 R/hr	440 R
Utirik	D + 3	170	276	H + 16.2	1 R/hr	81 R

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OR CHANGED TO ~~SECRET~~ RD.
BY AUTHORITY OF I. L. CURCHIZOVA
BY MEMO DATE 11/25/83

Original Name Dr.
WILLIAM R. KENNEDY
W. R. Kennedy

WRK:bg

cc: O.W. Stopinski
E. Harris
File

RG 326 US ATOMIC ENERGY COMMISSION

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REVIEWED BY Carl [Signature] DATE 1/31/84
J. Diaz 9/24/85

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