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OFFICE OF THE SECRETARY OF DEFENSE
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1962 NOV 15
Aw - Ecological 13/48
8 NOV 1962
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MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: Results of Vulnerability Analysis of Nuclear Attacks in the USSR (Clean Weapons)

In my memorandum to you of 19 September 1962, I forwarded a summary of the results of a portion of an over-all analysis of the long-term ecological effects of nuclear war, a study being conducted jointly by the DoD and the AEC.

[Redacted]

For that study, targeting was directed toward two different systems; one a combined military-industrial complex and the other was restricted, insofar as possible, to military targets.

[Redacted]

FOIA (b) (3) - 42 USC 2162 (a) - RD DOE EO13526 6.2 (a)

The initially reported results of the above analysis raised the question of the possible effects on populations resulting from an adverse wind condition (east to west), particularly with respect to Western Europe and adjacent Satellite area. Accordingly, the DoD Damage Assessment Center re-examined the problem for the adverse wind case.

Attached, at Tab A, are two tables which summarize the results of the analysis for both the prevailing wind and adverse wind situations. These table summaries delineate the expected results in population losses as appropriate for the USSR, Satellites and Western Europe for the different type of attacks and for the variations in the other parameters. Attached, at Tab B, is the more detailed analysis.

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Comment: While the absolute values of the total casualty estimates, as indicated for any one set of parameters, are perhaps subject to a wide variation, the comparative values and trends are relevant.

[Redacted]

I believe that the following conclusions can be drawn from this analysis:

[Redacted]

The same effect is true for Satellite and Western European populations for the adverse wind case.

b.

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[Redacted]

The relative advantage of clean weapons improves with decreasing weight of attack.

c.

[Redacted]

For lower weights of attack, clean surface bursts will cause somewhat fewer casualties than in the airburst case.

[Redacted]

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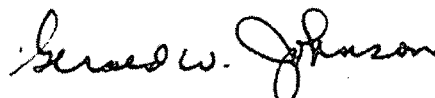
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e. The estimated USSR population losses, for a given weight of attack, are less by 4,000,000 to 8,000,000 individuals for an adverse wind condition as compared with the prevailing wind case.

f.

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g.



Gerald W. Johnson
Assistant to the Secretary
of Defense (Atomic Energy)

Inclosures

Tab A - Summary of Results

Tab B - Detailed Analysis

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TAB A

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SUMMARY OF RESULTS

A. Surface Burst/Military-Industrial Target System

(Total Fatalities - Millions)					
USSR		Satellites		W. Europe	
Prev.	Adv.	Prev.	Adv.	Prev.	Adv.
Wind	Wind	Wind	Wind	Wind	Wind
(209,000,000)		(96,200,000)		(344,000,000)	
169	164	0	45	0	9.6
164	159	0	43	0	7
150	145	0	34	0	2
128	122	0	20	0	0.3
118	112	0	16	0	0.2
62	62	0	0	0	0
117	111	0	14	0	0.2
108	100	0	12	0	0.2
87	81	0	6	0	0
69	65	0	3	0	0
63	59	0	2	0	0
50	50	0	0	0	0
76	71	0	5	0	0
69	61	0	4	0	0
52	47	0	1	0	0
43	39	0	0.4	0	0
39	36	0	0.2	0	0
41	41	0	0	0	0

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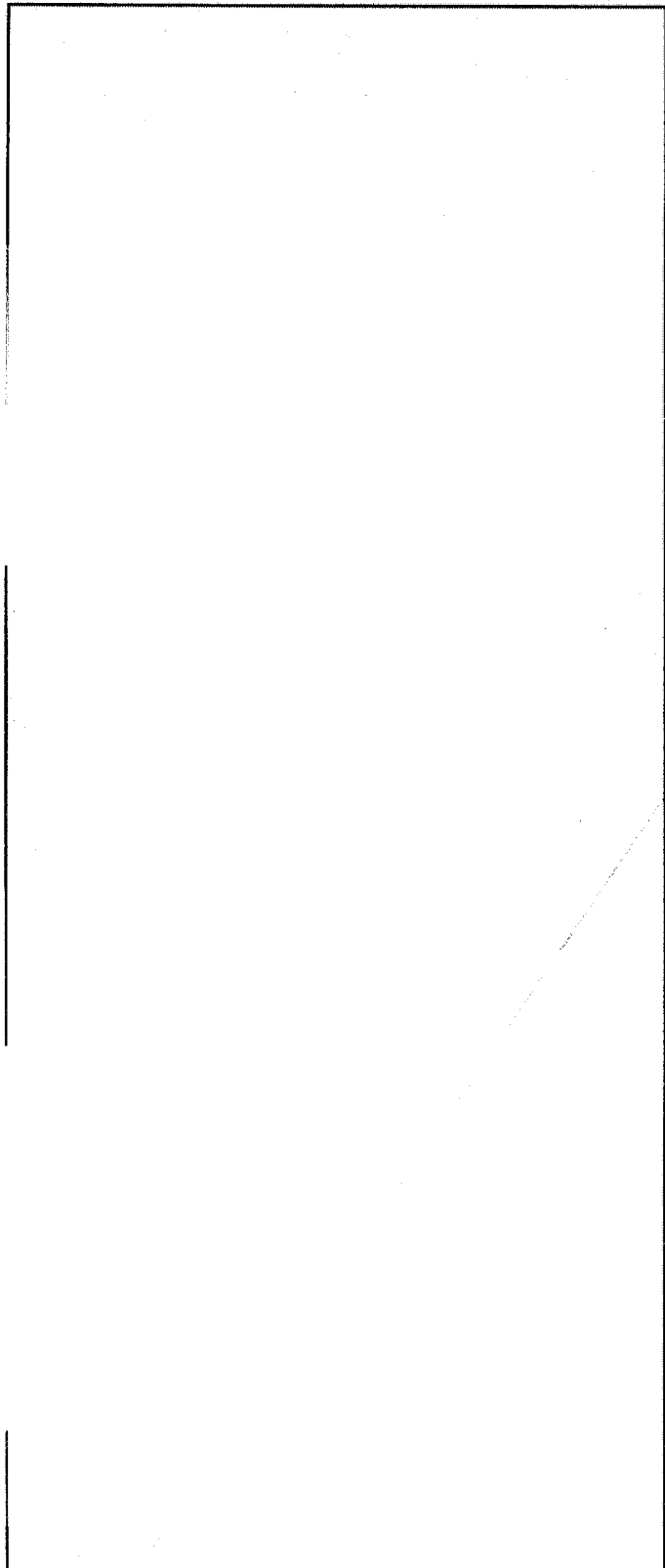
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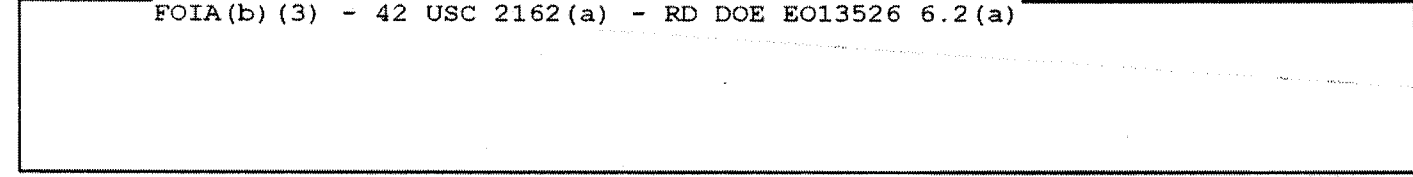
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ATOMIC ENERGY ACT, 1954 B. Surface Burst/Military Target System and Airburst
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(Total Fatalities - Millions)					
USSR		Satellites		W. Europe	
Prev.	Adv.	Prev.	Adv.	Prev.	Adv.
Wind	Wind	Wind	Wind	Wind	Wind
(209,000,000)		(96,200,000)		(344,000,000)	
108	104	0	45	0	10
99	95	0	41	0	6
81	76	0	32	0	2
60	54	0	18	0	0.3
53	47	0	14	0	0.1
19	19	0	0	0	0
59	52	0	14	0	0.4
51	44	0	11	0	0.2
36	30	0	6	0	0
24	20	0	2	0	0
20	17	0	2	0	0
12	12	0	0	0	0
34	27	0	5	0	0
28	21	0	4	0	0
17	13	0	1	0	0
11	9	0	0.4	0	0
9	8	0	0.2	0	0
9	9	0	0	0	0

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