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ANNEX B

SIOP-62 AN APPRECIATION

The Single Integrated Operational Plan is the war plan which directs the bulk of U.S. and Allied atomic strike forces in the event of general war with the Sino-Soviet Bloc. The origins of SIOP-62 lie in Study #2009 of the Net Evaluation Subcommittee. The study developed a single list of targets, known as the "optimum mix," and indicated what levels of damage could be accomplished against the target system with varying levels of assurance and capabilities. President Eisenhower approved of the target list and selected the damage and assurance criteria to be used in operational planning.

On 19 August 1960, the JCS issued the National Strategic Targeting and Attack Policy (NSTAP) as guidance for the planning staffs of the unified and specified commanders. Since NESC #2009 had considered the initial attack only, the NSTAP and SIOP-62 are similarly concerned and do not provide for follow-on attacks. The NSTAP laid down two objectives for the planners: (1) to destroy or neutralize the Sino-Soviet Bloc strategic nuclear capability and primary military and government controls of major importance; (2) to attack the major urban-industrial centers of the Sino-Soviet Bloc in order to achieve the general level of destruction selected by the President from NESC #2009.

With this guidance, the Director of Strategic Target Planning (DSTP), assisted by a joint staff in Omaha, established a National Strategic Target List (NSTL), determined the priorities to be given to these targets, and drew up a plan for a coordinated attack on the target system by major U.S. and Allied atomic strike forces. SIOP-62 resulted from this effort and became effective 1 April 1961. Unless changed, it will remain in effect until 1 July 1962 when SIOP-63 is scheduled to supersede it.

SIOP-62 starts from the premise that a single operational plan suffices for the atomic strike forces regardless of the circumstances in which a general war might be initiated. The target list is constant and the only question at issue is how much of the list can be destroyed with what degree of assurance. Consequently, the list is broken into

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two parts: a minimum NSTL containing 2220 primary objective targets, together with 835 active defense installations which must be hit in order to reach the primary objectives; and the full NSTL, which contains 3729 targets. Since many of these targets are co-located, and can be destroyed by a single weapon of sufficiently high yield, the actual number of Desired Ground Zeros (DGZ's) in SIOP-62 adds up to 1077.

The target list is assigned a total value of approximately 5,000,000 points; each target is allocated a certain number of points according to its importance; DGZ's are then "optimized" to destroy the maximum number of targets within a given complex; and finally, the most important DGZ's are assigned to those forces which have the highest probability of surviving and destroying the targets.

In other words, the "optimum mix" determines what targets should be attacked and when they should be attacked.

Table 1 illustrates in a rough way the targets that are attacked and the relative importance that is attached to them. The Alert Force is assigned 480 DGZ's; the Full Force, as noted, would cover 1077 DGZ's. All countries in the Sino-Soviet Bloc are represented on the target list, but the Soviet Union contains the bulk of the targets. As one example, General Power points out (in JCSM-406-61, Appendix A) that "four SAC alert sorties (11 weapons) are targeted in [redacted]".

However, he goes on to say that they "may be withheld at any time prior to launch of the SAC alert force on a calculated risk basis."

The requirement set by President Eisenhower, based on NESC Study #2009, was that the atomic strike forces have a capability to achieve a 75% assurance of inflicting severe damage to enemy nuclear delivery capabilities and military and government controls. Similarly, there was to be a 75% assurance of inflicting severe damage to the industrial floor space of the Soviet Union and China. A variety of techniques are used to achieve this amount of destruction with the requisite level of confidence. The maximum number of vehicles is launched consistent with the amount of warning received and the readiness of the force. Routes of all vehicles are coordinated, and time over target (TOT) is carefully controlled. The major tactics used to penetrate enemy defenses are:

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Table 1

Targets and their Assignment\*

<u>Type of Target</u>	<u>Total Targets</u>	<u>Alert Force Targets</u>
I. <u>Nuclear Threat to the U.S.</u>		
Airfields with nuclear storage and primary staging bases	76	76
Nuclear storage sites	68	68
Missile sites and storage, ICBM**	4	4
[REDACTED]	218	166
Missile sites, MRBM**	6	6
Missile storage, MRBM	1	1
Naval Bases	29	26
[REDACTED]	88	56
[REDACTED]	5	5
[REDACTED]	369	217
Naval Base, Surface	11	11
[REDACTED]	80	72
[REDACTED]	29	26
V. <u>Urban-Industrial Complexes at Risk</u>		
USSR	295	199
China	78	49
VI. <u>Government Control Centers</u>		
USSR and China	126	118

\* Although this table is based on a JCS document, it does not represent the full target list. For example, 835 active defense installations are omitted.

\*\* These numbers undoubtedly will change or already have changed.

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In order to deliver the requisite damage to target with the desired assurance, a system of cross-targeting is employed. Different types of vehicles, launched from a variety of bases, are scheduled against a particular target. Thus, a Jupiter, an Atlas, a Titan, and 3 B-52's are programmed against [REDACTED]

OSD  
b1  
A number of degradation factors are used in order to determine the probability that a weapon will reach a given bomb release line (BRL) and detonate on target. [REDACTED]

Table II indicates some of the probabilities that have been obtained with respect to SIOP-62.

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The delivery systems integrated into SIOP-62 total 2258 vehicles. They carry 3423 weapons with yields ranging from [REDACTED] megatons. The Alert Force is programmed to deliver 1447 weapons with a total yield of [REDACTED]. The Full Force, with 3423 weapons, would deliver [REDACTED] - assuming that the entire force got through to target. Tables III and IV show numbers and types of delivery vehicles, numbers and locations of bases from which they would be launched, and types of weapons to be employed.

SIOP-62 contains 16 options. However, these options do not refer to alternative strategies but to the number of delivery vehicles that can be generated for launch at specified times after A-Hour (time to begin force preparation). Thus, the alert force has zero generation time and represents Option 1. The full force can be generated with strategic warning of something over 28 hours. This represents Option 16. The alert force would be launched at an 'optimum mix' of military and urban-industrial targets. Follow-on forces would attack additional targets together with the same targets scheduled for the alert force (in order to increase assurance of success). Table V shows the schedule of force generation.

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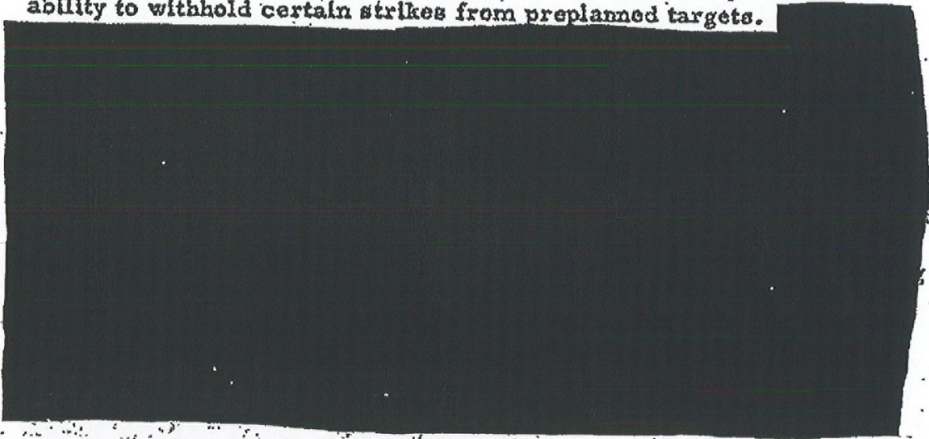
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The actual flexibility in SIOP-62 consists essentially of the ability to withhold certain strikes from preplanned targets.



050  
b1

The outcome to be expected from implementation of SIOP-62 has been calculated to a certain degree for two cases: where the alert force gets off, and where the full force gets off. It should be noted that casualties and damage to the United States and its Allies customarily are not presented, although casualties in the United States alone (resulting from Soviet attacks) are expected to be 16,000,000 at a minimum. Tables VI, VII, VIII, IX, and X show what might happen to the Sino-Soviet Bloc in the two cases mentioned above. Presumably the SIOP planning factors which provided the averages shown in Table II were used to obtain these results.

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Table II  
Some SIOP-62 Probabilities

Average Delivery Assurance

52.3%

63.1%

35.5%

56.8%

Vehicles

SIOP missiles (including cruise  
missiles)

All-weather aircraft

Non-all-weather aircraft

All SIOP weapons

Average DGZ Assurance (that one weapon will detonate on target)

87%

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Table III

SIOP Delivery Systems and Their Deployment

<u>Type of Vehicle</u>	<u>Number</u>	<u>Location of Bases</u>	<u>Number</u>
B-47	760	United States	
B-52	447		
B-58	32		
B-57	38		
B-66	17		
F-84-F	18		
F-100	221		
F-101	28		
Valiant	8		
Canberra	41		
AD	69	United Kingdom	
A3D	58		
A4D	168		
Polaris	80		
Atlas	58		
Titan	21	Germany	
Jupiter	30		
Snark	30		
Regulus	4		
Mace	54		
Matador	76		
	2258		

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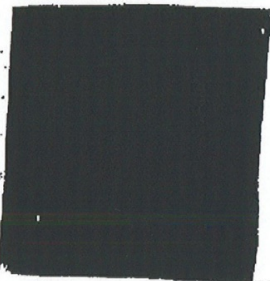


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Table IV

Weapon Variety in SIOP-62

<u>Aircraft Delivery</u>		<u>Missile Delivery</u>	
<u>Type</u>	<u>Yield</u>	<u>Type</u>	<u>Yield</u>
Mark 41		Titan	
Mark 39		Snark	
Mark 43		Atlas	
Mark 28		Jupiter	
Mark 5		Regulus	
Mark 7		Hound Dog	
Boar		Polaris	
Mark 105		Mace	
		Matador	

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Table V  
Force Generation

<u>Option</u>	<u>Time</u>	<u>Weapons</u>	<u>Delivery Systems</u>	<u>Total</u>
1	0000		874	874
2	0100		70	
3	0200		57	
4	0300		232	
5	0400		46	
6	0500		50	
7	0600		65	1394
8	0700		54	
9	0800		91	
10	0900		51	
11	1000		80	
12	1200		97	
13	1400		75	1842
14	2000		193	
15	2800		209	
16	Strategic Warning		94	2338*

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\* This number is higher than the total shown in Table III. Although both numbers appear in the same paper, there is no explanation for the discrepancy.

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Table VI  
Targets and their Destruction

<u>Type of Target</u>	<u>Total Targets</u>	<u>Destroyed by</u>	
		<u>Alert Force</u>	<u>Full Force</u>
I. <u>Nuclear Threat to the U.S.</u>			
Airfields with nuclear storage and primary staging bases	76	76	76
Nuclear storage sites	68	56	68
Missile sites and storage, ICBM	4	4	4
[REDACTED]	218	99	212
Missile sites, MRBM	6	1	6
Missile storage, MRBM	1	1	1
Naval Bases	29	20	28
[REDACTED]	88	24	83
[REDACTED]	5	5	5
[REDACTED]	369	91	276
Naval Base, Surface	11	8	10
[REDACTED]	80	15	56
[REDACTED]	29	15	26
V. <u>Urban-Industrial Complexes at Risk</u>			
USSR	295	199	295
China	78	49	78
VI. <u>Government-Control Centers</u>			
USSR and China	126	85	121

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Table VIII

SIOP Casualties

	Caused by	
	Alert Force	Full Force
	421,000	496,000
	258,000	308,000
	197,000	292,000
	4,200	214,000
	497,000	2,636,000
	<u>1,300</u>	<u>58,000</u>
	1,378,500**	4,004,000***

\* These casualties result from strikes by SIOP-committed forces only.

\*\* One percent of the population.

\*\*\* Four percent of the population.

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Table IX

Damage to Sino-Soviet Bloc Civil Societies\*

	<u>Destroyed** by</u>	
	<u>Alert Force</u>	<u>Full Force</u>
% Industrial floor space USSR	65	74
% Total floor space USSR	75	82
% Urban casualties*** USSR	55	71
% Rural casualties USSR	21	39
% Total casualties USSR	37	54
% Industrial floor space China	53	59
% Total floor space China	61	62
% Urban casualties China	41	53
% Rural casualties China	4	9
% Total casualties China	10	16

\* Estimates based on the arrival of at least one weapon at each DGZ.

\*\* Destroyed means damage to building or facilities which precludes production without essentially complete reconstruction of the installation. It connotes collapse or severe damage to all principal structures. A greater number of installations will receive lesser but significant damage which would require materials and effort before production could be resumed.

\*\*\* Casualties include fallout effects during the first 72 hours, with a 60% shielding factor.

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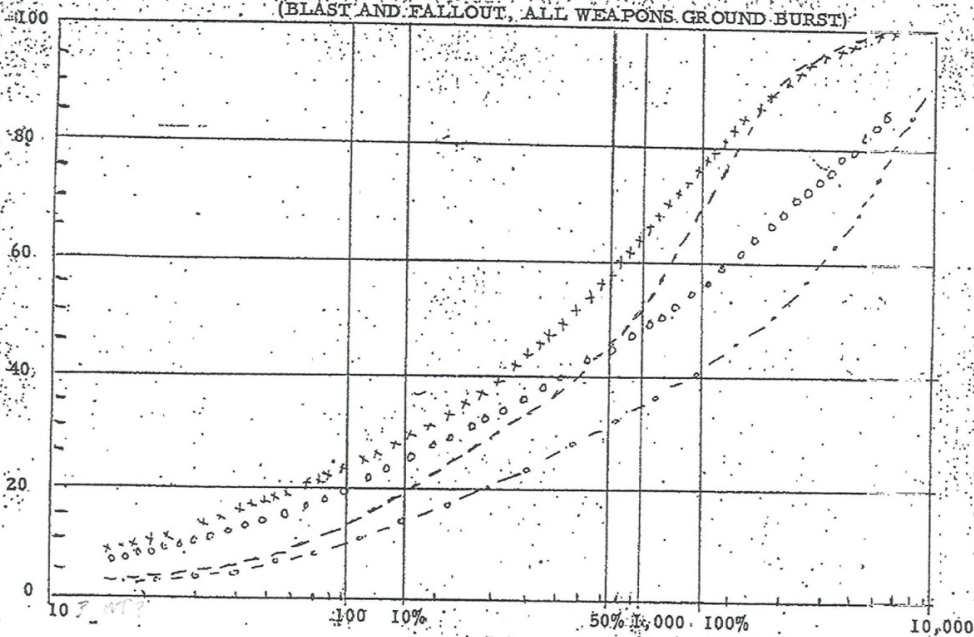
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# DEATHS FROM ALTERNATIVE ATTACKS ON U. S. CITIES

(BLAST AND FALLOUT, ALL WEAPONS GROUND BURST)

PERCENTAGE OF U. S. POPULATION KILLED

CHART II



TOTAL YIELD (MEGATONS)

SU Force

- - - - (10 MT Weapons, Incidental Shelter)
- - - - (10 MT Weapons, Basement Shelters)
- x x x x (1 MT Weapons, Incidental Shelter)
- \* \* \* \* \* (1 MT Weapons, basement shelters)

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Fallout at H+1 - 2400 T  
U S Population - 180,000,000

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The effort thus far has been to describe SIOP-62 and present official evaluations of the outcome of a general war should the SIOP be implemented. It may now be appropriate to underline several characteristics of the plan and briefly discuss the evaluations.

Although SIOP-62 possesses the potential of a limited amount of flexibility, it is actually an all-purpose plan designed for execution in its existing form regardless of the contingency that may arise. The rigidity of the plan, especially in respect of targeting, has a number of causes. Several of them are worth enumerating.

1. There is a widespread expectation among military planners that the Soviets, whether they strike first or second, will attack urban targets or some urban-military combination comparable to the "optimum mix" upon which SIOP-62 is postulated. Consequently there is no need to be especially selective about targets or discriminating in the U.S. attack.

2. There is an equally widespread expectation that, regardless of the circumstances, the Soviets will manage to launch a number of weapons against the U.S. In other words, the U.S. will never be able to achieve the combination of surprise and complete destruction of the Soviet long-range nuclear capability; the Soviets will always execute either urban or optimum mix attacks; therefore the U.S. must always attack a composite target system as exemplified by SIOP-62. Nowhere is any real consideration given to the possibility that there may be an interaction between our targeting philosophy and that of the Soviet Union.

3. Accompanying these assumptions is the notion that prevailing in a general war means coming out relatively ahead of the enemy. As an example, if the U.S. has lost 20% of its industrial capacity and 30% of its people, but the Sino-Soviet Bloc has lost 40% of its industrial capacity and 60% of its people, then the U.S., somehow or other, has won the war. In somewhat oblique fashion, the JCS express this philosophy in JCSM-430-61. As they put it: Diversion of U.S. forces from other targets to military targets would reduce by relatively small percentage the effect on the Soviet civil society. If the diversion were highly pronounced, it could result in failure to damage the war-supporting economies of the USSR and China to the extent necessary to render them incapable of further support of the war effort. This latter condition was found by Study No. 2009 to be a shortcoming of attacking only military targets.

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4. Finally, although this concern is rarely expressed, there is a growing fear that - owing to the vulnerability of U.S. strategic forces and our command-control - three consequences might flow from introducing any real flexibility into the SIOP. The first is that our offensive forces might be cut down to a very small fraction of their prewar size by a well-executed surprise attack; hence our retaliation would hurt the Soviets only if directed against an urban or composite target system. The second is that a surprise attack might knock out the U.S. command-control and leave our residual forces uncertain as to the plan they should execute. Existence of only one plan - SIOP-62 - together with the elaborate system of cross-targeting hopefully reduces the probability that the Soviets will escape unscathed from such an attack. A third consequence of great concern is that greater flexibility, introduced under these circumstances, will become widely known, will tempt the Soviets to attack, and thereby will weaken deterrence.

In addition to the rigidity inherent in SIOP-62, the plan depends very heavily for its success upon warning sufficient to launch the alert force. If sufficient warning is not received, it is conceivable that few, if any, U.S. delivery vehicles would get off. Such a contingency is within the bounds of possibility, especially with the growth of the Soviet ICBM force.

Finally, SIOP-62 is, to put it mildly, an extremely blunt instrument. Even in the case of strategic warning, the plan envisages using the force in such a way that the enemy has a high probability of receiving warning that a U.S. attack is on the way. Penetration techniques, as noted, call for mass, countermeasures, and the development of corridors through which subsequent bombers can pass. These are brute force tactics which, in turn, make for almost certain fulfillment of the prophecy that the enemy will be able to launch some of his weapons, regardless of the circumstances.

The evaluation of SIOP-62 contains a number of interesting features. The planning factors used to establish the assurance with which a weapon will reach the BRL are highly uncertain quantities. The averages, under some circumstances, could be much too high; under others, they may be much too low. Nowhere is a factor for base destruction in U.S. included. Consequently, however detailed and refined the calculations about damage to the Sino-Soviet Bloc, no great weight of confidence can be placed in them. Similarly, there must be large uncertainties about the level of damage that the U.S. would suffer. In short, although the outcomes shown for SIOP-62 are of value, they are incomplete - not only because they play down the damage to the U.S., but also because they concentrate on one set of results rather than on a range.

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MC Initiative on one plan for all circumstances  
is like the McN initiative on  
one plan (EX) for both Army & Navy

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ANNEX C

GENERAL WAR CONTINGENCY PLANNING AND BERLIN

The Berlin crisis, rising international tension, and the possibility that the United States may become engaged in direct conflict with the Soviet Union make it imperative that we have general war plans--and particularly plans pertaining to the use of our strategic forces--which take account of the many ways in which general war may occur. One of the contingencies for which we must plan is the case where, as a result of major repulse to our conventional forces in Western Europe, the United States responds with a strategic attack against the Soviet Union itself. Review of SIOP-62 suggests that it need not be the only for such an attack. I therefore request, as a matter of the utmost urgency, that alternative plans be developed for a strategic attack upon the Soviet Union. I also request that such plans be evaluated for their effectiveness and that estimates be presented of the earliest date at which they could be instituted and implemented.

Certain objectives should be kept clearly in mind in the development of these plans. My desire is that the attack be concentrated on the smallest number of military targets compatible with the elimination of the Soviet intercontinental threat. The attack should be designed in such a way as to minimize damage to Soviet population, industry, and governmental authority. It should also be designed so as to enhance the probability of minimizing damage to the population, industry and governmental authority of the United States and its European Allies. Unless adequate justification can be given for the inclusion of targets in other countries, the attack should be directed solely against targets within the Soviet Union. Finally, the attack should ensure that substantial forces be available for follow-on attacks.

Emphasis should be given to a minimum-warning attack with the smallest number of vehicles compatible with the decisive reduction of the enemy's strategic offensive capabilities. Combined missile-bomber strikes and bomber-only strikes should be analyzed. All plans should be based on the assumption either that a state of extreme tension exists between the United States and the Soviet Union, or that a local conflict has started between them. It should be assumed further that the strategic forces of both sides have been placed on a high alert, with the further possibility that overflights may be occurring over one or both countries.

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"better,  
FS plan"

(like no  
second strike)

plan, +  
"min warning"

NRBY?

(no AD in  
Eastern!)

(or not, for  
SU!)



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The plans that are developed should be detailed and explicit in character. In particular, they should describe:

1. The target system
2. The desired ground zeros
3. Weapons assignments
4. Expected results, including:
  - a. Expected accuracies of delivered weapons
  - b. Expected damage per DGZ
  - c. Variations in expected damage resulting from variations in yield and height-of-burst of assigned weapons
5. Mission characteristics
6. Follow-on forces
7. Measures to reduce warning
8. Enemy air defenses. In this connection, particular attention should be given to attacks which do not depend for their effectiveness on the destruction of enemy air defenses.
9. Optimum timing for execution of the plan
10. Pre-attack preparations
11. Overseas base requirements
12. U.S. warning systems, air defenses, and civil defense measures

I request that each plan be accompanied by an evaluation of its expected effectiveness. Such an evaluation should include:

1. Soviet force survival
  - a. Numbers and types of Soviet strategic forces expected to survive the attack.
  - b. Confidence levels and uncertainties associated with these estimates.
2. Damage in the Soviet Union
  - a. Casualties and damage in the Soviet Union resulting from the attack, with varying assumptions about the level of Soviet civil defenses and the ability of the Russian population to make effective use of available shelter.

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3. Warning given to the Soviets

- a. Degree of warning (measured in time) that the Soviets might expect to receive of the attack.
- b. Confidence levels and uncertainties associated with these estimates.

4. Damage in the United States

- a. Casualties and damage in the United States, given varying assumptions about the size of the Soviet response, the targets in the United States that be hit, and the attrition that U.S. defense could exact.
- b. In this connection, consideration should be given to pre-attack and post-attack measures which might be taken in order to influence the nature of any Soviet reply.

5. Damage elsewhere

- a. Casualties and damage in Allied countries resulting from the U.S. attack and from possible Soviet responses.
- b. Casualties and damage within the Sino-Soviet Bloc (the USSR excluded).

6. U.S. follow-on forces

- a. Estimates on numbers surviving
- b. Readiness and ability to continue the attack

I request that, by 25 September 1961, a progress report on this project be presented to me, together with a preliminary estimate of the ability of U.S. strategic forces actually to execute such plans.

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