TOP SECRET - SENSITIVE
FORMERLY RESTRICTED DATA

ENCLOSURE

JCSM-186-71
23 April 1971

MEMORANDUM FOR THE SECRETARY OF DEFENSE

Subject: Analysis of the Single Integrated Operational Plan for the National Security Council (U)

1. (U) Reference is made to your memorandum, dated 13 August 1970, subject as above, which requested that the Joint Chiefs of Staff develop an analysis of the Single Integrated Operational Plan (SIOP) for the National Security Council.

2. (U) The analysis requested by the reference is contained in the Appendix hereto.

3. (C) The Joint Chiefs of Staff consider that the individuals designated in the enclosure to the reference should be cleared for the purpose of contributing to or reviewing the attached analysis. Procedures for limiting access to SIOP information within the organization of the Joint Chiefs of Staff and the Services have been previously established.

4. (U) The Joint Chiefs of Staff recommend that the proposed briefing of the SIOP to the Defense Planning Review Committee (DPRC) by General Holloway in his capacity as Director of Strategic Target Planning, as discussed in the 17 March 1971 DPRC meeting, be presented prior to forwarding this analysis to the DPRC. Thus, this analysis would not preempt General Holloway's briefing, in that there is considerable overlap in the proposed content of the briefing and this [illegible]

5. (U) Without attachment, this memorandum is downgraded to CONFIDENTIAL-SENSITIVE.

For the Joint Chiefs of Staff:

Signed

W. C. WESTMORELAND
Acting Chairman
Joint Chiefs of Staff

APPENDIX

(154 pages)

ANALYSIS OF THE SIOP

FOR THE NATIONAL SECURITY COUNCIL

APPENDIX

ANALYSIS OF THE SINGLE INTEGRATED OPERATIONAL PLAN FOR THE NATIONAL SECURITY COUNCIL (U)

TABLE OF CONTENTS

SPECIAL HANDLING REQUIRED
NOT RELEASABLE TO
FOREIGN NATIONALS

GROUP 1
EXCLUDED FROM AUTOMATIC
DOWNGRADING AND DECLASSIFICATION

PART I

INTRODUCTION, OVERVIEW, CONCLUSIONS AND BACKGROUND (U)

INTRODUCTION

1. (S) This paper provides an evaluation of:

a. The capabilities of current US strategic forces, as presently targeted, to meet both the National Security decision Memorandum (NSDM-16) sufficiency criteria, and to carry out the warfighting objectives embodied in the mission of the Single Integrated Operational Plan (SIOP).

b. The impact of force changes on US capabilities under current SIOP targeting philosophy and methodology to meet the strategic sufficiency criteria, on our capabilities to carry out the warfighting objectives of the SIOP, and on the conspicuous US-Soviet strategic force comparisons that could have some effect on US foreign policy objectives.

2. (TS) The Secretary of Defense requested* this analysis because of his desire that strategic force deliberations at the national level take into

[redacted]

* Memorandum by the Secretary of Defense for the Chairman, Joint Chiefs of Staff, dated 13 August 1980, Subject: "Analysis of the SIOP for the National Security Council."

OVERVIEW

3. (S) The paper is organized into five parts and three annexes, as follows:

a. Part I--Introduction. This part includes conclusions and background.

b. Part II--NSTAP Objectives and SIOP Planning Criteria. This part includes current force capabilities as reflected by the consequences of executing the SIOP as related to the National Strategic Targeting and Attack Policy (NSTAP) objectives in SIOP targeting.

c. Part III--Relationship Among NSDM-16 Criteria, SIOP Targeting Objectives, and Other Potential Criteria for Force Planning. This part evaluates the relationships among the objectives in SIOP targeting, the NSDM-16 criteria for strategic sufficiency, and other criteria of potential importance in planning strategic forces, such as flexible response, support to allies, and diplomatic sufficiency.

d. Part IV--The Force Mix Concept. This part describes the concept and rationale for a mix of strategic offensive forces in relation to SIOP planning and other requirements such as confidence in deterrence and flexible response capabilities.

e. Part V--Future Force Analysis. This part consists of a summary of an analysis by the Studies, Analysis, and Gaming Agency (SAGA), Organization of the Joint Chiefs of Staff, of possible future strategic forces in the outyears of 1974 and 1979. (The complete SAGA analysis is in Annex B hereto.) In this analysis, war outcomes are assessed from the results of war games which parallel current SIOP targeting objectives as much as possible. Assessments include applicable NSDM-16 criteria for strategic sufficiency and other criteria of potential importance, such as flexible response, support to

allies and diplomatic sufficiency. The force capability calculations were based on the four forces postulated in the paper prepared for the Defense Program Review Committee, dated 18 August 1970, subject: "Defense Planning 1971-1976," Revision 7, i.e., the objective force in JSOP FY 72-79, the Current Program Joint Force Memorandum (JFM) Alternative Force), the Limited Reduction Program (JFM Decremental Force), and the Reduced Program (JCS Alternative B Force).

f. Annexes. The following annexes provide further details on subject matter in parts as follows:

(1) Annex A--Examples of Urban/Industrial Target Complexes. Related to Part II.

(2) Annex B--War Game Analysis by the Studies, Analysis and Gaming Agency. Related to Part V.

(3) Annex C--VALIMAR Model. Relates to Part V.

CONCLUSIONS

4. (TS) The following conclusions are drawn from Parts II through V:

a. The four strategic sufficiency criteria of NSDM-16* are intended to provide guidance for strategic force planning and do not address SIOP targeting objectives. However, they do relate, in part, to forces as applied in the SIOP.

(1) The first two criteria are being met by current SIOP-committed forces.

(2) The third criterion [redacted] damage, is meaningful as a measure of force capability. This analysis used current SIOP targeting policy, which is not [redacted] Therefore, the capabilities of the forces to satisfy this criterion could not be quantified.

* See glossary for NSDM-16 criteria

(3) The fourth criterion on limiting damage from accidental or small attacks to a low level is not applicable in measuring the capabilities of strategic offensive forces. It should be noted, however, that defenses deployed in support of this criterion can improve the survivability of bombers, intercontinental ballistic missiles (ICBMs), fleet ballistic missile submarines in port, and the command and control system when subjected to such attacks.

b. There are other criteria of potential importance that strategic forces may be required to meet which are not set forth in NSDM-16. Some of these major criteria are:

(1) To provide warfighting capabilities as an essential part of deterrence. Credible deterrence requires a clear warfighting capability for any level of conflict as well as the unmistakable national determination to use it if necessary to protect US interests.* [redacted] However, there are shortfalls in the [redacted]

(2) To provide flexible response capabilities for strategic forces, as necessary, to give the National Command Authorities (NCA) a wide range of options with which to respond to enemy actions.* [redacted]

* The Joint Chiefs of Staff support this additional criterion as being a requirement for force planning.

(3) To provide for support of allies with US strategic forces. A capability for [redacted] is required for such support.* The SIOP specifically provides for this criterion by [redacted] Forces committed to and coordinated with the SIOP would, in fact, provide such support.

(4) To provide [redacted] This criterion is not directly related to SIOP objectives.

c. A mix of mutually supporting strategic offensive force components (bombers, ICBMs, and sea-launched ballistic missiles (SLBMs)), with diversity in basing, survivability modes, and attack methods:

(1) [redacted]

(2) [redacted]

(3) [redacted]

d. A mix of strategic offensive forces provides significant advantages in the SIOP, especially in [redacted]

(1) [redacted]

(2) Through [redacted] it increases confidence in achieving military objectives.

* The Joint Chiefs of Staff support this additional criterion as being a requirement for force planning

** See Glossary for definition.

e.

[redacted]

(1)

(2)

(3)

f. With regard to current US strategic force capabilities, the United States, in terms of objectives used in current SIOP targeting:*

(1) [redacted]

(2) [redacted]

(3) [redacted]

and

* In this analysis, it was not possible to assess war termination. However, the SIOP-4E, RISOP-69 wargames and a preliminary review of SIOP-4I/RISOP-71 wargames indicate that probably [redacted]

** See glossary for definition.

(4) Can provide support to allies by destroying a significant number of [redacted]

g. With regard to the analysis of future US strategic force capabilities based on projections of the programmed forces and alternative reduced forces to 1974 and 1979 against the Soviet threat from NIEP-70:

(1) The United States, in terms of objectives used in current SIOP targeting:

(a) Could not terminate [redacted]

(b) Could not destroy or neutralize the [redacted]

(c) [redacted]

(d) [redacted]

(2) [redacted]

(3) With the projected high numbers high technology (HI-HI) threat, [redacted]

* See glossary for definition

(4) In numerical comparisons with projected Soviet Forces (i.e., delivery vehicles, warheads, megatons, equivalent megatons, and throw-weight*) [redacted]

h. The analysis further shows that the 1979 objective force as recommended by the Joint Chiefs of Staff in JSOP FY 1972-1979, against either the Soviet HI-HI or high numbers, low technology (HI-LO) force, unless otherwise indicated:

(1) [redacted]

(2) Can provide support to [redacted]

(3) Can, [redacted] satisfy NSDM-16 Criteria 1 and 2;

(4) Can, [redacted], satisfy NSDM-16 Criterion 1; but, because of the lack of sufficient improvements to the [redacted] and the improved [redacted] cannot insure, under Criterion 2, [redacted]

(5) Cannot significantly limit damage to the [redacted] and

(6) [redacted]

(NOTE: The JSOP force has significant improvements in missile yield and accuracy).

* See glossary for definition

i. In all cases evaluated, ballistic missile defense deployments beyond those postulated would be required to provide a significant limitation of damage to the [redacted]

j. While the VALIMAR computer model is an extremely useful tool for comparing relative capabilities of forces and for indicating general effects of adjustments in force mixes, it has certain acknowledged shortcomings common to all fast-running aggregated computer models as discussed in Part V, pages 2-3. Furthermore, certain necessarily arbitrary assumptions, detailed in Annex B, also effect the wargaming results of this study. Accordingly, the findings based on such analyses, as in this study, must be viewed with caution in determining total capabilities of a single force component and in any final decision on force levels and structure.

k. These limitations of the analytical tool used in this study and the sensitivity of results to certain critical inputs are manifested in certain of the conclusions drawn in Tables 1-9 of Part V, primarily with respect to the ability of US Forces to satisfy Criteria 1 and 2. In these instances, judgments have been derived based on evaluation of the wargaming results and appreciation of the analytical limitations.

BACKGROUND

5. (S) The approach taken by each Administration in the 1960s in strategic force planning decisions placed great emphasis on maintaining an assured destruction capability. This capability was defined by some as the [redacted] During the late 1960s, a significant damage-limiting capability against

a large Soviet attack was judged to be: (a) not cost-effective; (b) not feasible with current technology; and (c) susceptible to being countered by the Soviets. Therefore, forces were not procured for this purpose. The gross size and capabilities of US strategic forces were determined by [redacted] resulting in considerable emphasis on the [redacted]

6. (S) In the mid 1960s against expected threats and under generated alert conditions, US strategic forces were considered to have adequate [redacted] There was some emphasis in force planning on the characteristics, such as yield, reliability, and accuracy, which our forces would need to fight a nuclear war. The Joint Chiefs of Staff, in the Joint Strategic Objectives Plan, consistently have recommended that [redacted] In general, however, [redacted]

7. (S) In the late 1960s, with recognition of the growing Soviet threat, there was increasing concern about providing US Forces with characteristics useful in [redacted]

* The Joint Chiefs of Staff did not support this rationale. For JCS views, see paragraph 16.

8. (TS) The President directed a review* of US strategic doctrines early in 1969. The resulting strategic sufficiency criteria of NSDM-16 endorsed the [redacted] But the sufficiency criteria went beyond this concept and addressed denying the [redacted] This concept [redacted] The review also recognized that the criteria did not cover all possible US strategic force requirements and that a continuing study would be required.

9. (U) On 25 February 1971, the President, in his report to Congress on "United States Foreign Policy for the 1970's," stated: "Specifically, sufficiency has two meanings. In its narrow military sense, it means enough force to inflict a level of damage on a potential aggressor sufficient to deter him from attacking. Sole reliance on a 'launch-on-warning' strategy, sometimes suggested by those who would give less weight to the protection of our forces, would force us to live at the edge of a precipice and deny us the flexibility we wish to preserve.

In its broader political sense, sufficiency means the maintenance of forces adequate to prevent us and our allies from being coerced. Thus the relationship between our strategic forces and those of the Soviet Union must be such that our ability and resolve to protect our vital security interests will not be underestimated. I must not be -- and my successors

* National Security Study Memorandum (NSSM-3)

must not be -- limited to the indiscriminate mass destruction of enemy civilians as the sole possible response to challenges. This is especially so when that response involves the likelihood of triggering nuclear attacks on our own population. It would be inconsistent with the political meaning of sufficiency to base our force planning solely on some finite -- and theoretical -- capacity to inflict casualities presumed to be unacceptable to the other side."

10. (TS) Thus, there are force planning issues which were not resolved by the current strategic sufficiency criteria. These issues, in considerable part, address the capabilities required of US strategic forces [redacted] The Joint Chiefs of Staff have stated that, while the principal military objective of the United States with regard to strategic nuclear warfare is to [redacted] Important among these are [redacted] This latter objective is considered to be as important as [redacted] because, [redacted] Further, this view of the Joint Chiefs of Staff holds that visible warfighting capabilities are an essential part of [redacted] as well as the unmistakeable national determination to employ US forces when, and to the degree necessary to protect US interests.

11. (S) Foremost among these unresolved issues which are relevant to this paper are the following:

a. [redacted]

b. [redacted]

c. [redacted]

d. What steps, if any, should be taken to provide a wider range of [redacted]

e. [redacted]

In considering these force planning issues and possible related decisions, their potential effects on the current US plan for strategic targeting must be considered.

12. (TS) The strategic force planning assumptions which have been operative in force planning decisions and the employment of existing US strategic forces are based on somewhat different objectives.

a. [redacted]

future US weapon systems. Many US programs, being designed to reduce the sensitivity of our force capabilities to these uncertainties, have been based on conservative planning assumptions such as the use of Soviet high threats. It is only because of these conservative planning assumptions that the United States has been able to maintain a strategic balance against the present Soviet threat.

b. Yet, as discussed previously, a major issue in the continuing examination of the strategic sufficiency criteria is the degree to which our force planning should more explicitly and systematically provide forces for warfighting capabilities. On this issue, much of the debate concerns the degree to which our deterrent is enhanced by added warfighting capabilities. It is pertinent here that the Assistant to the President for National Security Affairs, in addressing overall force posture, recently stated that ". . . While our intentions are peaceful and our goal is to deter war at all levels, we plan for all our forces to provide a real warfighting capability. To be 'realistic', deterrence of potential enemies must be based on both our warfighting capability and the willingness to use it if necessary."*

c. [redacted] Therefore,

* White House memorandum to members of the Defense Program Review Committee, dated 24 February 1971, subject: "Foreign Policy, State and Defense Posture Statement."

there is an implicit warfighting objective. Moreover, because current Soviet and Chinese Communist force levels are known with some degree of certainty and because the performance of existing US weapons is relatively well understood, the measures used to achieve confidence in current SIOP targeting objectives are different from those used in planning future US strategic forces. Thus, while we plan to procure sufficient future forces to counter high threat projection, we have confidence in the probable consequences of execution in our current targeting concepts because we [redacted]

d. These differences between force planning and force application must be considered when evaluating the capabilities of US forces to meet the NSDM-16 sufficiency criteria and the SIOP planning objectives and criteria. Thus, one set of measures is applicable in assessing how well forces meet planning objectives and a different set is applicable in assessing how well they meet employment objectives.

PART II

NSTAP OBJECTIVES AND SIOP PLANNING CRITERIA

BASIC OBJECTIVES

1. (TS) The National Strategic Targeting and Attack Policy (NSTAP) provides guidance for the preparation of capabilities plans [redacted] The Single Integrated Operational Plan (SIOP) is the capabilities plan which provides for the optimum integration of committed forces of the unified and specified commands, and for coordination with appropriate external commands, for all [redacted] The SIOP and the targeting policy have been briefed to each successive national administration.

2. (TS) The basic NSTAP objective is to defeat, in concert with other US and allied operations, the Soviet Union alone or in combination with other powers as required. The NSTAP further defines this objective [redacted] In achieving this objective, military forces of the United States should be prepared:

a. [redacted]

b. [redacted]

c. [redacted]

These tasks may be achieved separately or in combination. It is noted that there is [redacted]

3. (TS) The NSTAP provides for flexibility in the use of [redacted] These flexibilities are as follows:

a. [redacted]

b. [redacted]

SIOP TASKS

4. (TS) SIOP Tasks. [redacted] targets in the Soviet Bloc* [redacted] are divided into types of targets which are categorized as Tasks ALPHA, BRAVO and CHARLIE. The number of targets in each task is shown in Table 3.

5. (TS) Task ALPHA. This task involves the [redacted] particularly those forces posing an immediate threat to the United States and its allies and to US forces overseas. The targets for this task include:

[redacted]

* See glossary for definition.

d. [redacted]

e. [redacted]

f. [redacted]

g. [redacted]

h. [redacted]

6. (TS) Task BRAVO. This task involves the [redacted] The targets for this task include:

a. [redacted]

b. [redacted]

7. (TS) Task CHARLIE. This task involves the [redacted]

a. [redacted] examples of [redacted]

5. [redacted]

ATTACK OPTIONS

4. (TS) [redacted] nuclear offensive forces are assigned to one of the three SIOP Tasks, ALPHA, BRAVO, and CHARLIE. These forces can be executed by any one of the following attack options:

a. Attack Option 1. Executes Task ALPHA under conditions of [redacted] for Tasks BRAVO and CHARLIE for possible subsequent use.

b. Attack Option 2. Executes Tasks ALPHA and BRAVO concurrently under conditions of [redacted] for Task CHARLIE for possible subsequent use.

c. Attack Option 2, Extended. Executes Tasks ALPHA, BRAVO, and CHARLIE concurrently [redacted]

d. Attack Option 3. Executes Tasks ALPHA and BRAVO concurrently under conditions of [redacted] programmed for Task CHARLIE for possible subsequent use.

e. Attack Option 4. Executes Tasks ALPHA, BRAVO, and CHARLIE concurrently under conditions of [redacted] It should be noted that the [redacted]

SIOP FLEXIBILITIES

9. (TS) Under each attack option, the SIOP provides for [redacted]

[redacted]

Moreover, provisions are made in all attack options [redacted] Positive Action by the National Command Authorities (NCA) is needed in order to attack [redacted]

10. (TS) In SIOP execution, [redacted] However, in concert with this attack, the following additional selected strikes may be ordered:

a. [redacted]

b. [redacted]

c. [redacted]

11. (TS) On the other hand, selected strikes by SIOP forces against [redacted]

Special execution capabilities have been developed which provide the flexibility to execute, against [redacted]

[redacted]

c. Execution of Task ALPHA against [redacted]

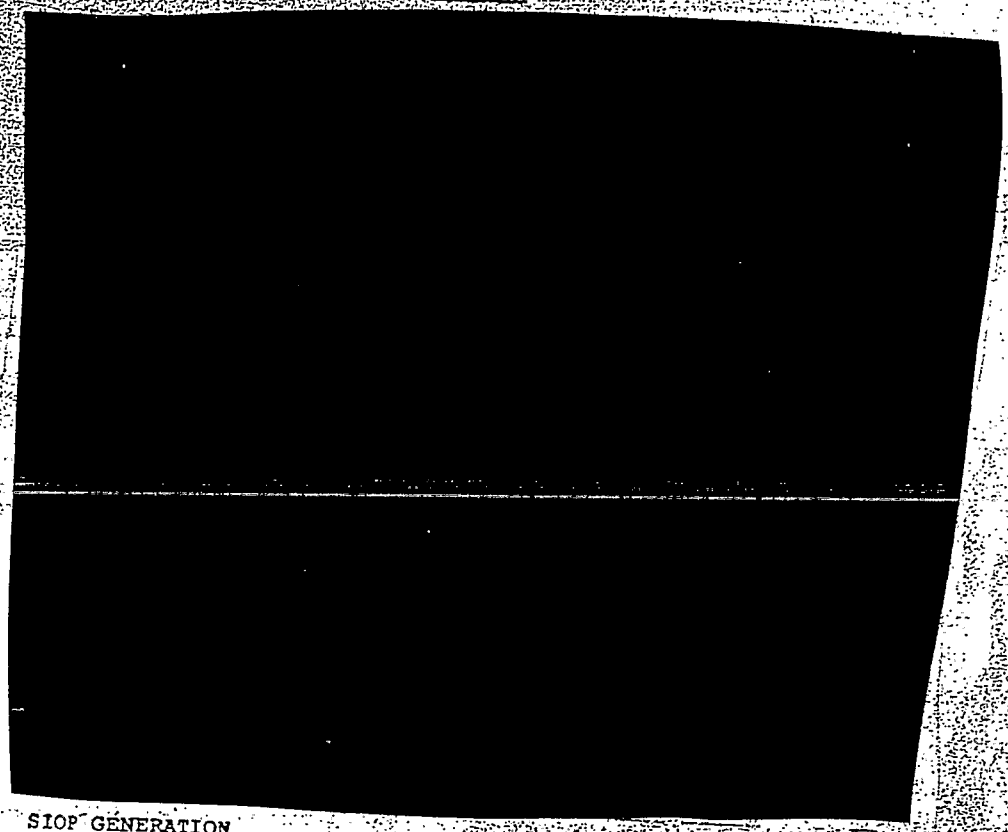
(1) Execution of Tasks ALPHA and BRAVO against [redacted]

(2) Execution of Tasks ALPHA, BRAVO, and CHARLIE against [redacted]

PRELAUNCH SURVIVABILITY

12. (TS) Table 1 shows the prelaunch survivability factors used in the SIOP. Those listed under [redacted] are used in planning Attack Options 1 and 2; those listed under [redacted] are used in planning Attack Options 3 and 4.

Table 1



SIOP GENERATION

13. (TS) The generation of [redacted] These are shown in Table 2.

1/ Non-alert (nongenerated) aircraft Prelaunch Survivability (PLS) is [redacted]

2/ Value shown is for the [redacted]

* See glossary for definition.

TABLE 2

SIOP Force Generation Levels

Force Generation Levels	Generation Time (A+)	Weapons Programmed to be on Alert
[redacted]		

1/ Time required for the [redacted]

EXPECTED DAMAGE

14. (TS) Table 3 summarizes, by task, the number of targets attacked in [redacted] This table also shows the average expected damage by task. Table 4 shows the same information by major target types within each task.*

15. (TS) Expected damage is based on [redacted] Expected damage, as shown in these tables and as used in SIOP planning [redacted] is the [redacted] The operational factors considered are the [redacted]

* All SIOP data in this analysis is extracted from Revision I of the SIOP, effective 1 January 1971 to 30 June 1971.

TABLE 3

SUMMARY OF SIOP TARGETING AND EXPECTED DAMAGE

	Weapons Assigned	1/ (Aim Points)	Expected Damage Day-to-Day Alert Posture	Expected Damage Generated Alert Posture	Targeted (Aim Points)	Weapons Assigned	Expected Damage
Task ALPHA							
Task BRAVO							
Task CHARLIE							
Totals							

1/See glossary for definition.
2/Difference in weapons assigned between [redacted] is due to shift of weapons to Task ALPHA assignments because of [redacted] (See subparagraph 22b below for further details.)

Table 4

Targeting and Estimated Damage by Target Type

	Total Installations	Installations Attacked	[redacted] Attack by US Forces 1/ Weapons Programmed	Expected Damage Day-to-Day Alert Posture	2/ Expected Damage Generated Alert Posture	[redacted] Attack by US Forces (Fully Generated Alert Posture) Installations Attacked	1/ Weapons Programmed	DE
Tank ALPHA	[redacted]							
Sub-total								
Task BRAVO								
Sub-total								

1/ Also called [redacted] As indicated above,

2/ Decreased DE as compared to preemption primarily due to [redacted]

3/ All ICBMs not targeted due to weapon resource and capability limitations. (See paragraph 25 below.)

Table 4 (Continued)

	Total Installations	Installations Attacked	Attack by US Forces: [redacted] Weapons Programmed	Expected Damage Day-to-Day Alert Posture 2/	Expected Damage Generated Alert Posture 2/	Attack by US Forces (Fully Generated Alert Posture): Installations Attacked	Attack by US Forces (Fully Generated Alert Posture): [redacted] Weapons Programmed
Task CHARLIE							
[redacted]							
Sub-total							
TOTAL ALL TASKS							

1/ Also called [redacted] As indicated above,

2/ Decreased DE as compared to preemption primarily due to

3/ Normally Task BRAVO but collocation with [redacted] requires designation as Task CHARLIE for execution purposes.

[redacted]

16. (TS) The expected damage is [redacted] This, for example, Table 4 indicates that [redacted]

TARGETING PRIORITIES

17. (U) The method used by the Joint Strategic Target Planning Staff (JSTPS) to determine the importance of enemy installations is identified as [redacted] This system is comprised of two parts, [redacted]

18. (TS) [redacted] This system is concerned with the [redacted] selected from the Eurasian TDI* for inclusion in the NSTDB.*

a. To accomplish the objectives stated in the NSTAP, the [redacted]

b. [redacted] For example, [redacted]

* See glossary for definition

[redacted]. These supplemental go-nos may be a reflection of:

[redacted]

c. Some examples of basic points assigned [redacted] are as follows:

TASK ALPHA

Installation	Basic Points Assigned Each*
[redacted]	

TASK BRAVO

Installation	Basic Points Assigned Each*
[redacted]	

19. (TS) [redacted] This U/I system is based upon an original [redacted] points which were used as an arbitrary starting point as follows:

* Reference paragraph 20, for further discussion of targeting priorities between tasks as actually applied in planning. Basic points assigned, while indicating relative importance, do not indicate the [redacted]

Area	Points Assigned	Percent of Total
[redacted]		

a. The NSTAB lists and evaluates each [redacted]

b. [redacted] In some categories, this approach is not applicable; therefore, [redacted]

c. The Target Data Inventory divides [redacted]

d. [redacted]

[redacted]

e. In summary, [redacted] Therefore, the more accurate approach is to consider the [redacted] However, a sample list by category is provided as follows:

NOTE: The objective of the Task CHARLIE attack is to [redacted]

Category	USSR Total Points	USSR Destroyed Points	COMMUNIST CHINA Total Points	COMMUNIST CHINA Destroyed Points
[redacted]				

f. Table 5 shows the expected [redacted] from SIOP attack option 4.

Table 5

[redacted] 1/

Attack Option 4
with U.S. Forces on Day-to-Day Alert

	Total Points	Destroyed	% Destroyed in Point Value
[redacted]			
TOTAL			
[redacted]			
TOTAL			

Expected Fatalities and Economic Worth Damaged

US Day-to-Day Alert Posture

	Fatalities	Economic Worth
[redacted]		

1/ Deaths and damage due to [redacted]

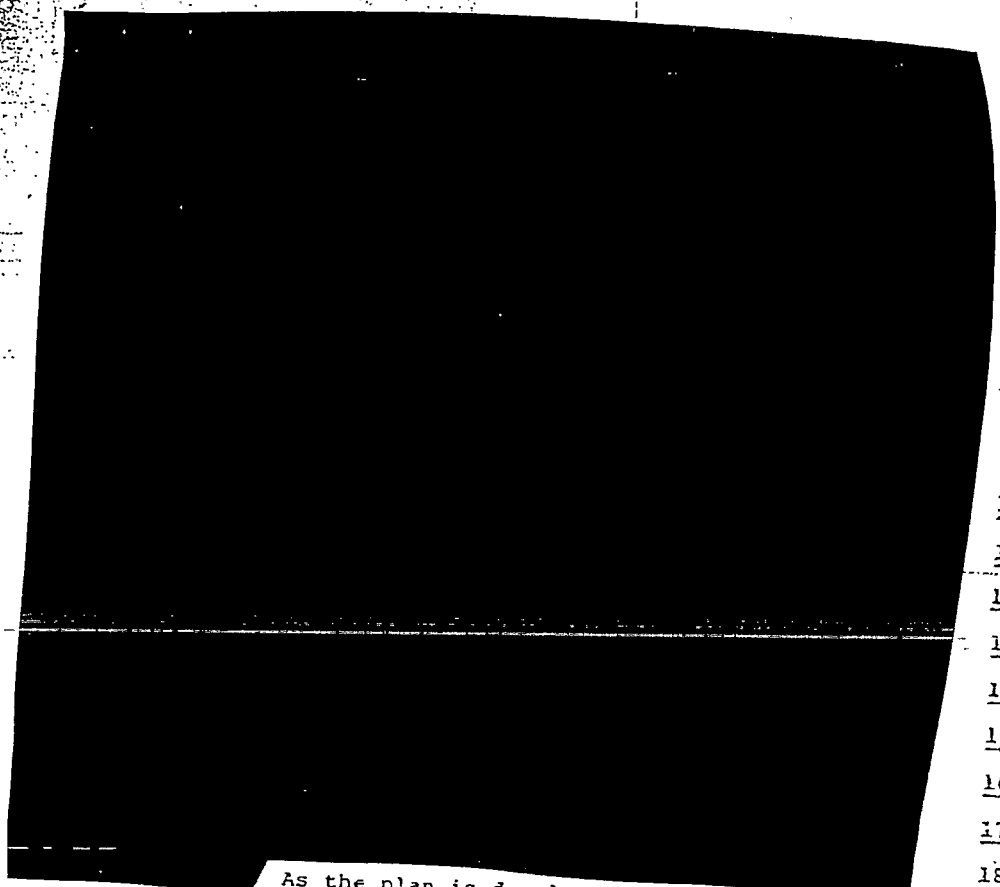
20. (TS) Priorities Between Tasks.

a. When determining the relative targeting priority between tasks, NSTAP serves as the guideline. The NSTAP states:

[redacted]

b. In view of this instruction, it is apparent that a [redacted]

21. (TS) Once the overall strategy and general guidelines have been established, preparation of the [redacted] (PPDE) will be initiated. The cornerstone of PPDE is the guidance provide by the Joint Chiefs of Staff in the NSTAP, which reflects [redacted] PPDE is prepared using the best available [redacted]



As the plan is developed, the actual laydown of the plan is continually checked against the PPDE to insure that the final result will approximate the PPDF.

SEQUENTIAL STEPS IN SIOP TARGETING

22. (TS) After the targets have been divided into tasks, priorities assigned to each target, and preplanned damage expectancies assigned to each target, the following steps in sequence are taken to assign weapons to individual targets.

a. [redacted] in Tasks ALPHA and CHARLIE under the conditions of Attack Option 4 [redacted] in the following sequence: (1) [redacted]

* See glossary for definition.

b. After assigning the alert forces under Attack Option 4 to targets in Tasks ALPHA and CHARLIE, [redacted]

c. Next the [redacted] are assigned in Attack Option 1 to targets in Tasks ALPHA, BRAVO, and CHARLIE to achieve the [redacted]

d. The next step is to apply the remaining nonalert sorties against Tasks ALPHA, BRAVO, and CHARLIE targets in order to attempt to meet the [redacted] These nonalert sorties [redacted] for Attack Options 2, 3, and 4 as were established under Attack Option 1.

e. Finally, [redacted] are used in the SIOP to:* [redacted]

* Reference Paragraph 38 for a description of the relationship of the SIOP to NATO Theater Nuclear Strike Forces.

DEFENSE SUPPRESSION

23. (TS) [redacted] Current SIOP planning assumes that [redacted]

24. (TS) [redacted]

25. (TS) Because of the large number and hardening of [redacted] are targeted. Approximately [redacted] are targeted in US day-to-day alert posture. All [redacted] Although about [redacted] are uncovered, at least [redacted] in each group of [redacted] is targeted. The targeting technique used to attack the [redacted] of target is [redacted]

[redacted]

DEGRADE ANALYSIS

27. (TS) When SIOP forces are applied to the target system, [redacted] In view of this factor, [redacted]

28. (U) Table 6 indicates the results when it is assumed that major components are degraded in plan execution. For the above reasons, these results should be considered only in this context as gross approximations and should not be used as indicators of relative effectiveness of major SIOP force components.

29. (TS) Table 6 also shows degrading results for three scenarios.

[redacted]

Assuming failure of the [redacted] the Task ALPHA programmed for attack decreases to [redacted] with a revised [redacted] (NOTE:

[redacted]

DEGRADE RESULTS

	TOTAL SIOP	Targets Attacked	Targets Attacked	Targets Attacked	Targets Attacked	Targets Attacked
[redacted]						
TASK A						
TASK B						
TASK C						
TOTAL						
[redacted]						
TASK A						
TASK B						
TASK C						
TOTAL						
[redacted]						
TASK A						
TASK B						
TASK C						
TOTAL						

[redacted]

30. (S) Generally, except when bombers fail, [redacted] This is expected because bombers provide nearly half of the weapons programmed.

31. (TS) Also it should be noted that the [redacted] This is a benefit of [redacted] to provide greater overall reliability in the SIOP.

SIOP EXECUTION

32. (C) Successful execution of the present SIOP depends on [redacted] Three additional factors are: [redacted] to accomplish the critical steps in the execution of the SIOP.

33. (TS) National Command Authorities. To execute the SIOP, it is intended that [redacted] will make the following decisions:

[redacted]

[redacted]

The central decision problem in [redacted]

FUNCTIONAL SUPPORT

34. (S) Command Centers

a. All key fixed command centers which support the NCA and the commanders of unified and specified commands who have SIOP-committed forces, concerning [redacted]

It is estimated that any of our fixed command centers can be destroyed with [redacted] Survivability could be increased through [redacted]

[redacted] Only under a worst-case scenario, using the current threat (less than [redacted] Even in this scenario, the continuously airborne CINCSAC airborne command post (ABNCP) has the capability to make contact with [redacted] The CINCSAC ABNCP and, when once airborne, the NEACP are highly survivable for [redacted] hours and up to [redacted] hours with air refueling.

b. All US command centers have the [redacted] The major problems are:

[redacted]

35. (S) Sensors and Warning Systems. Surveillance systems must have the capability to [redacted] It is essential that the [redacted] Also, in order for the NCA to make a timely decision as to whether or not to execute the SIOP, and if so, which options to

* See glossary for definition

selecty

[redacted]

36. (S) Communications

a. Complex and widely diversified communication systems are employed to support the current strategic offensive forces employed in the SIOP. The primary communication routes to the

[redacted]

* See glossary for definition

b. In the Strategic Air Command (SAC), aircraft with this capability are an integral part of the Post Attack Command Control System (PACCS).* The PACCS is comprised of [redacted] The PACCS provides:

(1) [redacted]

(2) The capability to [redacted]

(3) [redacted]

(4) The capability to [redacted]

c. TACAMO is [redacted] TACAMO aircraft are either [redacted]

* See glossary for definitions.
** TACSATCOM capability in CY 71. Also, see glossary for definition.

The Joint Chiefs of Staff have validated the requirement for

[redacted] However, it is possible that, until further improvements are made, some [redacted] may not receive the execution message in a timely fashion.

d. The ERCS can be used to disseminate the SIOP execution order, [redacted]

OTHER FLEXIBILITY PROVIDED IN THE SIOP AND OTHER PLANS

37. (S) There are available other options which may use SIOP forces. Although there is [redacted]

* See glossary for definitions.

procedures, communications, computer and display capability, and a staff required for this purpose. Additionally, [redacted]

38. (TS) The Relationship of the SIOP to NATO Theater Nuclear Strike Forces.

a. General. [redacted] (MC 14/3) adopted in 1967 requires [redacted] To make efficient use of Allied military forces in war, [redacted] A brief description of related plans follows:

b. SACEUR's General Nuclear Response Programs which are coordinated with the SIOP.

(1) [redacted] The [redacted] has [redacted] is [redacted]

[redacted]

(2)

[redacted]

c. SACLANT General Nuclear Response Programs. Of these programs, only

[redacted]

c. In summary, NATO nuclear strike forces make an essential military contribution both to [redacted]. In addition, however, they provide the most significant earnest of US intentions to fulfill the one obligation which is [redacted]. In consequence the political implications of the NATO nuclear strike force capability are profound.

OTHER NUCLEAR OPERATIONS PLANS

39. ~~(TS-S)~~ General. [redacted]

a. These operations plans contain provisions for [redacted]

b. [redacted]

[redacted] The procedures to be used by the commanders of unified commands, [redacted] and the manner in which the Joint Chiefs of Staff will respond to such requests, are described in Emergency Action Procedures of the Joint Chiefs of Staff.

c. Under [redacted] An example would be [redacted]

d. General Release of Nuclear Weapons. General war plans also provide for the use of [redacted]

[redacted]

4Q. (TS) Relation to the SIOP

a. In some cases, [redacted]

b. Many of the planned targets are identical with [redacted]

c. If subsequent to NCA approval of [redacted] a SIOP [redacted]

d. Commanders of unified and specified commands will coordinate [redacted] with each other.

e. [redacted]

PART III

RELATIONSHIP AMONG NSDM-16 CRITERIA, SIOP TARGETING OBJECTIVES AND OTHER POTENTIAL CRITERIA FOR FORCE PLANNING

INTRODUCTION

1. (U) Considering the foregoing review of the Single Integrated Operational Plan (SIOP), some further observations are necessary to understand the relationship among the NSDM-16 criteria for strategic sufficiency, the SIOP targeting objectives and force capabilities as applied to the SIOP, other criteria of potential importance in determining strategic force posture, and the measurements used in the analysis of future forces in Part V hereto.

NSDM-16 CRITERIA AND THE SIOP

2. (TS) The NSDM-16 criteria deal explicitly with US planning guidance which seeks to develop forces to

[redacted]

a. Regarding the first criterion on

[redacted]

b. Regarding the second criterion on

[redacted]

(See Table 4, Part II.)

c. The third criterion concerns [redacted]. This criterion is meaningful in national strategy in the [redacted]. This analysis uses current SIOP targeting policy [redacted]. Therefore, the capabilities of forces to satisfy this criterion could not be quantified.

d. The fourth criterion on [redacted] but, defenses deployed in support of this criterion can improve the survivability of [redacted].

3. (U) Thus, the NSDM-16 criteria for strategic sufficiency are intended to provide guidance for strategic force planning, and do not provide complete measures for assessing capabilities of US forces as applied in the SIOP.

4. (S) Conversely, [redacted]

* The third criterion may include military objectives from the [redacted]

[redacted]

5. (S) Current forces are capable of meeting SIOP targeting objectives with certain limitations.

a. As indicated in Part II, the SIOP [redacted] The data in Part II shows that current forces can effectively destroy [redacted] However, the United States has limited capability [redacted]

b. Because of the large number of Soviet [redacted] the attack of this target category in its entirety is not feasible. For example, Table 4, Part II, shows that [redacted] After absorbing a Soviet first strike, the United States [redacted]

c. While having this limited capability against Soviet [redacted] in Task ALPHA, i.e., [redacted] Against these target categories, Table 6, Part II shows that [redacted]

Task ALPHA range from [redacted] percent in [redacted] and [redacted] percent from [redacted] since [redacted] in this task are programmed for attack by nonalert weapons. The same is true for those Task BRAVO [redacted] restrained to Task CHARLIE for execution. In US retaliation from a generated alert posture, due to generation of the [redacted]

d. However, even against these [redacted] as indicated in the following table:

TABLE 1

[redacted]

TASK	TOTAL INSTALLATIONS	INSTALLATIONS [redacted] ATTACKED	TARGETED (AIMING POINTS)
ALPHA	[redacted]		
BRAVO			
CHARLIE			

e. The foregoing brief review of SIOP damage expectancies and coverage [redacted]

* See glossary for definition

** [redacted]

6. (S) NSDM-16 criteria focus primarily on capabilities for [redacted] are not indicated and may only be implied. Therefore, there is cause for concern about using only these criteria in planning for future forces because, by doing so, shortfalls such as indicated above are likely to continue and to increase if the Soviets continue to build their forces as projected. [redacted]

7. (S) In this connection, the Joint Chiefs of Staff believe that [redacted] Additionally, they have stated that [redacted] Because [redacted]

8. (S) In addition to [redacted] Three such criteria, considered pertinent in the context of this analysis, are [redacted]

* See next page

The [redacted] report discusses aspects of deterrence below the level of general war as follows (Page 12 and 13, Volume II):

"These [redacted] influences can be grouped as follows:

(1) Those which Decrease the Incentive to Attack. One measure which the United States could take is to [redacted]

(2) Defense Military Influences. [redacted]

(3) Offense Military Influences. Offensive capabilities provide the [redacted] prospect that the [redacted] Finally, there is the [redacted] Also, highly survivable offensive systems not only contribute to [redacted] Probably the [redacted]

9. (TS) Current war plans and force levels provide [redacted] In the SIOP, [redacted] The National Command Authorities may also [redacted]

10. (S) However, the need for a [redacted] options may be required by the National Command Authorities and is considered a current issue in strategic force planning*. This could include [redacted]:

a. [redacted]

* 1. In JSOP FY 73-80, the Joint Chiefs of Staff stated that: "... [redacted] (Vol II, Book II, Page II-13)

2. On 28 November 1969, the NSSM-64 Study was provided by the Joint Chiefs of Staff to the Secretary of Defense. This study addressed the capabilities of US strategic forces [redacted] (JCSM-729-69, subject: National Security Memorandum 64).

3. In the President's report to the Congress, "US Foreign Policy for the 1970s," dated 25 February 1971, in discussing strategic policy and forces, this statement appears: "... [redacted]

[redacted]

d.

and

e.

[redacted]

It might also include

[redacted]

11. (TS) In this connection, a recent study forwarded to the Secretary of Defense by the Joint Chiefs of Staff noted that, "The credibility and reliability of the overall NATO deterrent rests on a mutually complementary relationship

among adequate in-being capabilities for [redacted]

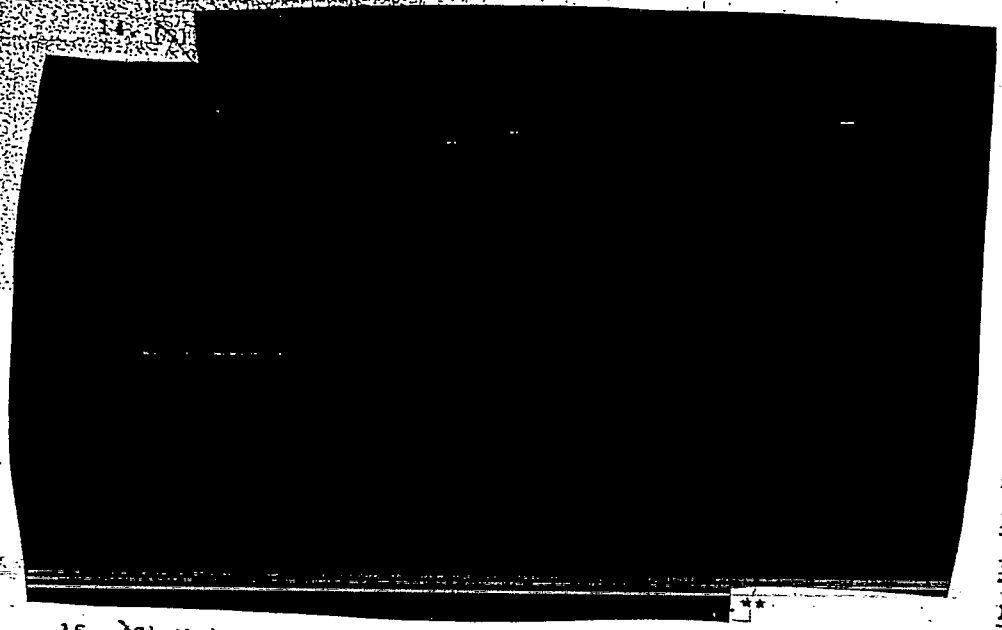
An adequate capability in each of these three areas complicates planning problems posed to the Warsaw Pact leaders. Without these capabilities, [redacted]

12. (S) Providing the National Command Authorities with a capability for a wider range of [redacted]

13. (S) Recognizing certain limitations, [redacted]

* JCSM 71-71, dated 22 February 1971, subject: "Concept for the Employment of Tactical Nuclear Weapons in Europe (U)."

14. (S) [redacted]



15. (S) Major force decisions which affect the viability and effectiveness of a strategic offensive force component, such as force modernization or survivability improvements or lack thereof, [redacted]

* In the JSOP FY 73-80, the Joint Chiefs of Staff stated that: "- - -

[redacted]

(Vol II, Book II - Page II-13, 14)

**The NSSM-64 Study provides an in-depth [redacted]

[redacted]

SUPPORT TO ALLIES

16. (U) In his Foreign Policy Report of 18 February 1970, the President stated that "we shall provide a shield if a nuclear power threatens the freedom of a nation allied with us, or of a nation whose survival we consider vital to our security and the security of the region as a whole." On 25 February 1971, the President, in his report to the Congress, "United States Foreign Policy for the 1970s," stated, "We will provide the nuclear shield of the Nixon Doctrine." These statements indicate a continuing role for the contribution of strategic nuclear forces in deterring attacks on US allies.

17. (TS) [redacted] In the SIOP, we currently [redacted]

18. (S) On the other hand, there is increasing doubt that the threat of large strategic nuclear strikes [redacted]

19. (TS) Our primary support to allies is in the form of forward-deployed forces with [redacted] with the capability to quickly deploy additional CONUS-based forces when necessary. Beyond this, there are three ways that [redacted] support our allies.

a. [redacted]

b. [redacted]

c. A US capability which could support a wider range of [redacted]

DIPLOMATIC SUFFICIENCY

20. (S) Another aspect of the relationship between US strategic nuclear forces and support to our allies is that of [redacted] In NSDM-95, the President noted that the Soviets have recently been attempting to influence US allies by claims of Soviet superiority in numbers and characteristics

of strategic weapons. He stated that we should continue to

21. (S)

[redacted]

22. (S) The visible manifestations of the SIOP forces would have an important function in satisfying this criterion. The presence and size of US strategic forces on alert on land and at sea, and if necessary, airborne, have potential

[redacted]

In time of crisis,

[redacted]

this criterion because of the uncertainties in the possible Soviet threats.

23. (S) A recent study has focused on the survivability of each offensive force component and has

[redacted]

24. (U) Visible evidence of quantitative sufficiency might include

[redacted]

* Strategic Systems Survivability Study, a study prepared for the Chairman, Joint Chiefs of Staff and forwarded to the Secretary of Defense (JCSM 89-71, 1 March 1971.)

** NSDM-95

evidence of qualitative sufficiency might be the degree of

[redacted]

SUMMARY

25. (S) In summary, conservatism in the sizing and structuring of US strategic forces and in planning against the high side of Soviet threats

[redacted]

PART IV

THE FORCE MIX CONCEPT

INTRODUCTION

1. (S) The United States currently has a mix of three strategic offensive force components: bombers, land-based ballistic missiles, and sea-launched ballistic missiles. This mix of forces, with its diversity in basing modes, survivability mechanisms and attack methods, and capabilities for mutual support, provides high confidence against planning uncertainties. Additionally, in the Single Integrated Operational Plan (SIOP) these forces provide a significant capability against some Soviet military target systems which may be critical in the assessment of strategic balance between the United States and the Soviets. Further, there are potentialities in each force component for improved flexible response capabilities which the United States may require in future forces. As amplified in the following rationale, these capabilities and potentials merit careful consideration in any proposed reduction or restructuring of strategic forces.

FORCE MIX RATIONALE

2. (TS) Mutually Supporting Mix

a. The effectiveness of US strategic offensive forces in a nuclear exchange is dependent upon many factors, several of which are highly uncertain. These include the [redacted] Because of these uncertainties, the United States attempts to maintain

confidence in the capabilities of strategic offensive forces by having a deterrent capability provided by a mix of mutually supporting strategic forces (land- and sea-based missiles, and bombers). Such a force mix provides:

[redacted]

For example,

[redacted]

element does not fully reflect the problem faced by an adversary in trying to cope with a mixed US Force. Forces with different methods for pre-launch survivability and dif different modes of penetration produce difficulties for an adversary who might consider an attack on the United States. For this reason, [redacted]

3. (TS) Importance in the SIOP. These benefits of a mix of mutually supporting forces primarily relate to uncertainties about future Soviet force developments and future performance of US weapons systems. The mix also has significant advantages in relation to the SIOP, especially in warfighting capabilities.

a. [redacted]

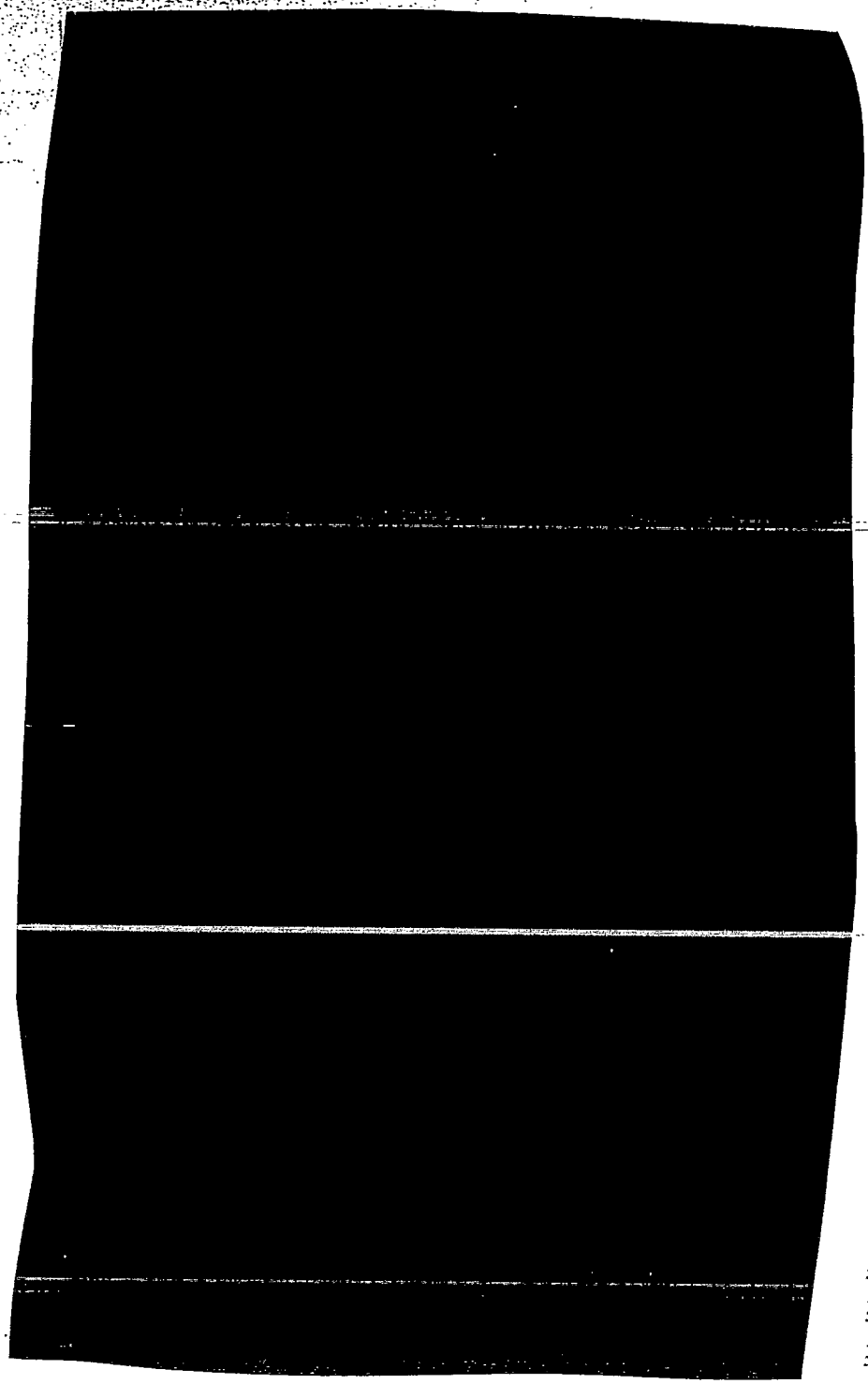
b. [redacted]

c. [redacted]

4. (S) Contribution of Each Force Component to Flexible Response Capability.

a. Bombers

(1) Strategic bombers have unique capabilities for flexible responses, for conducting limited nuclear exchanges, and providing nuclear support for our allies because of: (a) [redacted]



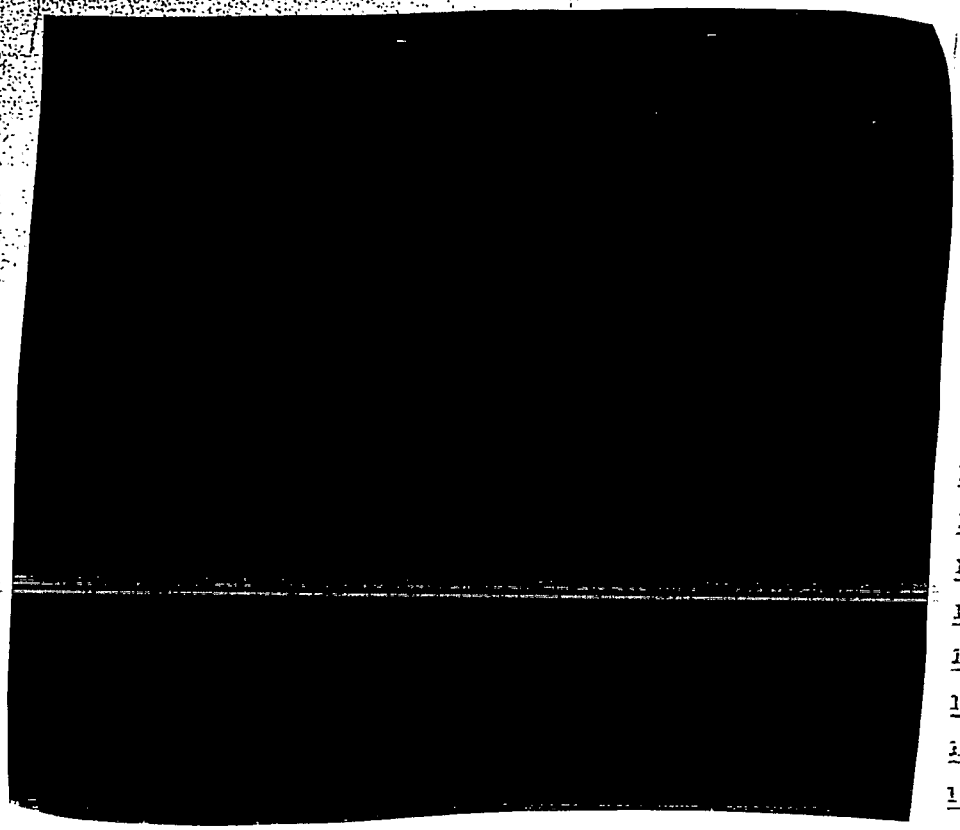
b. Land-based Missiles

(1) The strategic land-based missile force has the capability for

[redacted]

c. Sea Launched Ballistic Missiles (SLBM). SLBMs possess an inherent capability for

[redacted]



PART V

FUTURE FORCE ANALYSIS

INTRODUCTION

1. (U) Considering the unresolved planning issues as discussed in Part I and the differences in purposes between the Single Integrated Operational Plan (SIOP) targeting objectives and the NSDM-16 criteria as discussed in Part IV, two approaches can be taken to future strategic force planning: (a) one which focuses on measuring force capabilities in terms of relative capabilities of US and Soviet forces to inflict [redacted] and (b) one which measures all warfighting capabilities, i.e., capabilities against the [redacted] of a potential enemy and against a comprehensive military target system. The latter approach could include measures to parallel SIOP targeting objectives. It is used in the following future force analysis.

2. (TS) To parallel the SIOP in wargaming, the quantitative measurements applied in planning future forces may include [redacted] These measurements are used as the basis for judgments made in the findings and conclusions on force capabilities, which is contained in the following paragraph 6.

3. (U) The basis for these findings and inclusions is an analysis by the Studies, Analysis and Gaming Agency (SAGA),

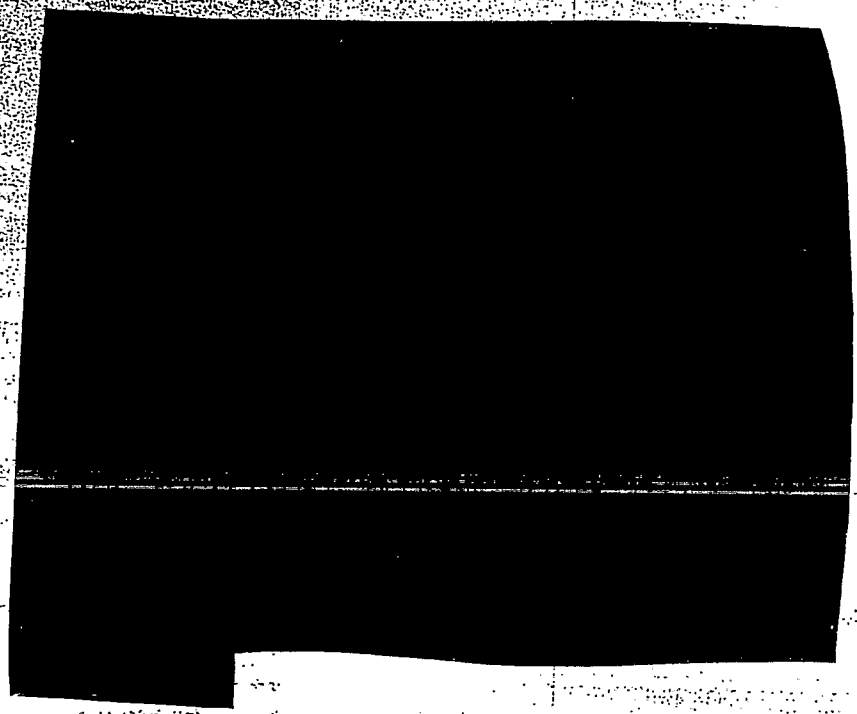
* See glossary for definition

Organization of the Joint Chiefs of Staff, which is contained in Annex A hereto. It was performed using the computer model, Version 3800, Aggregated Multiple Attack Program (VALIMAR). Annex C contains a discussion of certain test runs with the model in preparation for the force calculations, as well as some cautionary comments regarding aggregated models in general, when used in strategic force capability calculations.

[redacted]

* See Figures B-1 and B-2, Annex B for US force structures.

b. Other VALUAR model limitations constrained real world simulation as follows:



c. FYs 1974 and 1979 were considered in the SAGA analysis. The threats used were from the National Intelligence Projections for Planning for 1979 (NIPP-79): The Soviet High Numbers - Low Technology (HI-LO) and High Numbers - High Technology (HI-HI) threats.* For FY 1974, only the Soviet HI-LO threat was examined. US force capabilities against the Soviet HI-HI threat were not evaluated because the analysis of capabilities against the HI-LO threat is adequate to indicate US force limitations and because the difference between the Soviet HI-LO and HI-HI threats in 1974 are not sufficient to make significant differences in war outcomes.

d. Each of the 2 years was examined using the scenario scheme as follows.

* The NIPP-70 was used rather than the Defense Intelligence Projections for Planning for 1971 (DIPP-71) because the latter projections were not available when the analysis was performed.

[redacted]

a. Key assumptions and planning factors used in the analysis are as follows:

(1) [redacted] Damage Objectives. The VALIMAR program was so addressed that both sides engaging in the war game were required to achieve their respective [redacted] damage objectives to be eligible to receive credit for damage to the military target systems.

(2) [redacted] Damage Objectives. The values of [redacted] damage are assumed as targeting objectives of both sides.* Fatalities are based on [redacted] Damage to [redacted] Since areas of greatest manufacturing density are collocated with areas of greatest population density, the level of [redacted] Desired damage level for military targets is [redacted] In a case where this level is achieved on all military target classes, [redacted] In such cases, the objective of [redacted] will be exceeded.

(3) Missile Silo Attacks. Soviet missile targeting rationale followed that of the Red Integrated Strategic Offensive Plan for 1969 (RISOP-69).** That is, US missile [redacted]

** RISOP-69. A JCS approved hypothetical RED war plan based on Soviet capabilities as stipulated in current approved intelligence and used primarily for wargaming the SIOP, Revision F. The RISOP-69 was a Soviet capability plan and does not represent a judgement as to the courses of action the Soviets are most likely to select nor is it an attempt to predict Soviet inten[illegible].

silos were attacked when the Soviets preempted but were not attacked in retaliation.

[redacted]

(4) Withholds.

[redacted]

f. Further details are contained in Annex B.

4. (U) In addition to the SAGA wargame analysis, there is a comparison of US and Soviet Forces to evaluate the criteria of diplomatic sufficiency; i.e., the visible capability of US strategic forces to counter the Soviet threat.

SUMMARY OF FINDINGS AND CONCLUSIONS

5. (TS) General Findings

a. With the US Current Program or either of the reduced forces against the Soviet HI-LO or HI-HI threat,

[redacted]

b. In all cases, except with the JSOP force in 1979 with US Forces generated, the Soviets retain significant levels of residual military resources.* In 1979, there is generally

[redacted]

* See definition in Glossary

[redacted]

(See Figures BA-10 and BA-11, Annex B hereto).

c. The United States can achieve an advantage, [redacted]

d. In all cases, the Soviets have greater hard target capabilities. With the Soviet HI-HI force, this capability is significantly greater, [redacted] In 1979, with the Current Program or the Limited Reduction Program or Reduced Program against the Soviet HI-HI threat, [redacted] In all Soviet preemption cases with the HI-HI force in 1979, 800 to 900 US ICBMs are destroyed.

e. Both the United States and the Soviets can [redacted]

f. Only the JSOP force can provide the United States with [redacted]

* Includes targets in continental United States, [redacted] Not included are approximately [redacted] which might also be considered by the Soviets as targets for strategic forces. The significantly larger numbers of USSR hard targets (i.e., ICBMs, IR/MRBMs, and nuclear storage facilities) in the FY 1979 base and the larger USSR base in other military targets are important factors and should be considered when comparing relative capabilities of each country to damage the other's [redacted] See page 2, B-93,

[redacted] (Figures BA-12 and BA-13).

6. (TS) Findings in terms of Targeting Objectives in the SIOP.

a. With any of the forces considered, [redacted]

b. The United States could, in all cases, destroy or neutralize [redacted]

c. With any of the forces considered, the United States could not significantly limit damage to [redacted]

d. With either the Current Program, Limited Reduction Program or Reduced Program [redacted]

7. (S) Finding as to Diplomatic Sufficiency. Considering numerical comparisons with projected Soviet forces, the Soviets would have advantages in all measurements except in number of warheads.

FINDINGS FOR SPECIFIC FORCES

8. (TS) General.

a. While the output of the VALIMAR computer model is useful for comparing relative capabilities of forces and for indicating general effects of adjustments in force mixes, the findings of such analysis as in this study should be viewed with caution in determining total capabilities of a single

* [redacted]

forces in any final decision on force levels and structure.

b. In all cases in all years, the VALIMAR computer model indicates the

[redacted]

Additional findings are contained in the following paragraphs.

9. (TS) FY 1974 Against the Soviet MI-10 Threat. With any of the four US forces considered, the United States:

[redacted]

c. Can satisfy NSDM-16 criteria 1 and 2.

[redacted]

10. (TS) FY 1979 Against the Soviet MI-10 Threat.

a. With the JSOP force the United States:

[redacted]

(3) Can satisfy NSDM-16 criteria 1 and 2.

[redacted]

[redacted]

b. With the Current Program, the Limited Reduction Program, or the Reduced Program, the United States:

[redacted]

(3) Can satisfy NSDM-16 criteria 1 and 2.

[redacted]

11. (TS) FY 1979 Against the Soviet HI-HI Threat

a. With the JSOP force, the United States:

[redacted]

(3) Can satisfy NSDM-16 criterion 1.

(4) Cannot insure under criterion 2, because of the

[redacted]

[redacted]

b. With the Current Program, Limited Reduction Program, or Reduced Program, the United States:

[redacted]

(3) Can satisfy NSDM-16 criterion 1.

(4) Cannot insure under criterion 2, because of the

[redacted]

SPREAD SHEETS AND SUMMARY ANALYSIS

12. (TS) The following Tables 1 through 9, in spread sheet form, contain the foregoing results of the wargaming analysis in terms of capabilities of US Forces [redacted] to

satisfy NSDM-16 Criteria 1 and 2, to achieve an advantage [redacted]

Following the tables (by year and threat), there is a summary of qualitative judgments on the results of each scenario in the above terms. Appropriate references to the basic analysis in Annex E are provided for more detailed study by the reader.

* For definition of the column headed "TERMINATE WITH US RELATIVE ADVANTAGE," see definition [redacted] in the glossary.

US FORCE CAPABILITIES - FY 1974 1/
SOVIETS STRIKE FIRST - US IN DAY-TO-DAY POSTURE
HI-LO THREAT

Source: Figures BA-1 and BA-10, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		YES	[redacted]		
II CURRENT PROGRAM			YES			
III LIMITED REDUCTION PROGRAM			YES			
IV REDUCED PROGRAM			YES			

1/ In all cases, both sides can achieve [redacted]

US FORCE CAPABILITIES - FY 1974 1/
SOVIETS STRIKE FIRST - BOTH SIDES IN ADVANCED READINESS 2/
HI-LO THREAT

Source: Figures BA-2 and BA-10, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		YES	[redacted]		
II CURRENT PROGRAM			YES			
III LIMITED REDUCTION PROGRAM			YES			
IV REDUCED PROGRAM			YES			

1/ In all cases, both sides can achieve [redacted]

2/ Quantitative results are similar to US day-to-day case except somewhat higher levels [redacted]

US FORCE CAPABILITIES - FY 1974
US STRIKES FIRST - US AND SOVIETS IN ADVANCED READINESS
HI-LO THREAT

Source: Figures BA-3 and BA-10, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		N/A	[redacted]		
II CURRENT PROGRAM			N/A			
III LIMITED REDUCTION PROGRAM			N/A			
IV REDUCED PROGRAM			N/A			

1/ In all cases, both sides can achieve [redacted]

13. (TS) FY 1974 Capabilities Against Soviet MI-LO Threat (Tables 1-3):

a. In all three scenarios with any of the four US forces, the results are similar. The United States:

[redacted]

b. In scenarios for US retaliation, US forces:

(1) [redacted] and therefore are judged to be sufficient to satisy NSDM-16 criterion 1; and,

(2) [redacted] and therefore are judged to be sufficient to satisfy NSDM-16 criterion 2.

c. [redacted] (See Figures SA-1, SA-2, SA-3, and SA-10, Annex A hereto, for further details.)

TABLE 4

US FORCE CAPABILITIES - FY 1979 1/
SOVIETS STRIKE FIRST - US IN DAY-TO-DAY POSTURE
HI-LO THREAT

Source: Figures BA-4 and BA-10, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]	[redacted]	YES	[redacted]	[redacted]	[redacted]
II CURRENT PROGRAM	[redacted]	[redacted]	YES	[redacted]	[redacted]	[redacted]
III LIMITED REDUCTION PROGRAM	[redacted]	[redacted]	YES	[redacted]	[redacted]	[redacted]
IV REDUCED PROGRAM	[redacted]	[redacted]	YES	[redacted]	[redacted]	[redacted]

1/ In all cases, both sides can achieve [redacted]

US FORCE CAPABILITIES - FY 1979 1/
SOVIETS STRIKE FIRST - BOTH SIDES IN ADVANCED READINESS
HI-LO THREAT

Source: Figures BA-5 and BA-10; Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		YES	[redacted]		
II CURRENT PROGRAM			YES			
III LIMITED REDUCTION PROGRAM			YES			
IV REDUCED PROGRAM			YES			

1/ In all cases, both sides can achieve [redacted]

US FORCE CAPABILITIES - FY 1979 1/
US STRIKES FIRST - BOTH SIDES IN ADVANCED READINESS
HI-LO THREAT

Source: Figures BA-6 and BA-10, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		N/A	[redacted]		
II CURRENT PROGRAM			N/A			
III LIMITED REDUCTION PROGRAM			N/A			
IV REDUCED PROGRAM			N/A			

1/ In all cases, both sides can achieve [redacted]

[redacted]

14. (TS) BY 1979 Capabilities Against Soviet HI-LC Threat

a. Soviet Strike First -- US in Day-to-Day Posture (Table 4). In the case of a Soviet surprise attack, [redacted] With the Current Program, Limited Reduction Program, and Reduced Program, [redacted] they are judged to be sufficient to satisfy NSDM-16 criterion 1. Because the US forces have a high degree of survivability, they are judged to be sufficient to satisfy NSDM-16 criterion 2. [redacted] (For further details see Figures BA-4 and BA-10, Annex B hereto.)

b. Soviet Strike First, Both Sides in Advanced Readiness Posture (Table 5). In the case of a Soviet first strike with forces of both sides generated, [redacted]

[redacted] In the cases of the other three US Forces, although US force capabilities against [redacted] the Soviets can retain advantage in residual military resources. Again, this Soviet advantage becomes progressively greater as one considers, in turn, the Current Program, Limited Reduction Program, and Reduced Program. Damage to US military targets are similar to the case of the JSOP force. For the same reasons as in the previous scenario, US Forces are judged to be sufficient to satisfy NSDM-16 criteria 1 and 2. Only with the JSOP force can the United States terminate [redacted] (For further details, see Figures BA-5 and BA-10, Annex B hereto.)

c. United States Strikes First, Both Sides in Advanced Readiness Posture (Table 6). In the case of US preemption,

[redacted]

[redacted]

(For further details, see Figures BA-6 and BA-16, Annex B hereto.)

US FORCE CAPABILITIES - FY 1979 1/
SOVIETS STRIKE FIRST - US IN DAY-TO-DAY POSTURE
HI-HI THREAT

Source: Figures BA-7 and BA-11, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		CRITERIA* NO. 1 ONLY	[redacted]		
II CURRENT PROGRAM			CRITERIA* NO. 1 ONLY			
III LIMITED REDUCTION PROGRAM			CRITERIA* NO. 1 ONLY			
IV REDUCED PROGRAM			CRITERIA* NO. 1 ONLY			

1/ In all cases, both sides can achieve [redacted]

US FORCE CAPABILITIES - FY 1979 1/
SOVIETS STRIKE FIRST - BOTH SIDES IN ADVANCED READINESS
HI-HI THREAT

Source: Figures BA-8 and BA-11, Annex B

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMARKS
I JSOP	[redacted]		CRITERIA* NO. 1 ONLY	[redacted]		
II CURRENT PROGRAM			CRITERIA* NO. 1 ONLY			
III LIMITED REDUCTION PROGRAM			CRITERIA* NO. 1 ONLY			
IV REDUCED PROGRAM			CRITERIA* NO. 1 ONLY			

1/ In all cases, both sides can achieve [redacted]

US FORCE CAPABILITIES - FY 1979 1/
US STRIKES FIRST - BOTH SIDES IN ADVANCED READINESS
HI-HI THREAT

Source: Figures BA-9 and BA-11, Annex D

FORCE	DESTROY SOVIET [redacted]	DESTROY SOVIET [redacted]	NSDM-16 CRITERIA 1 & 2	[redacted]	[redacted]	REMAINS
I JSOP	[redacted]		N/A	[redacted]		
II CURRENT PROGRAM			N/A			
III LIMITED REDUCTION PROGRAM			N/A			
IV REDUCED PROGRAM			N/A			

1/ In all cases, both sides can achieve [redacted]

15. (TS) FY 1979 Capabilities Against Soviet RI-MI Threat

[redacted]

(Table 7). In the case of a Soviet surprise attack [redacted] With the Current Program, Limited Reduction Program, or Reduced Program, [redacted] they are judged to be sufficient to satisfy NSDM-16 criterion 1. However, it cannot be assured under Criterion 2 that the Soviets would have no incentive to strike in a crisis, realizing the vulnerability of [redacted] (For further details, see Figures BA-7 and BA-11 Annex B hereto.)

b. Soviets Strike First, Both Sides in Advanced Readiness Posture (Table 8). [redacted]

[redacted]

Similarly to the previous scenario, NSDM-16 criterion 1 can be satisfied. However, it cannot be insured under criterion 2, because of the lack of sufficient improvements to [redacted]

(For further details, see Figures BA-8 and BA-11, Annex B hereto.)

c. [redacted] Both Sides in Advanced Readiness Posture (Table 9). In the case of [redacted]

[redacted] (For further details, see Figures BA-9 and BA-11, Annex B hereto.)

US VS SOVIET HARD TARGET AND COUNTERFORCE CAPABILITIES

16. (TS) Appendixes A and B of the SAGA analysis in Annex B hereto contain additional calculations designed to further reveal the relative [redacted] and the Soviet HI-LO and HI-HI threat forces. Results are summarized as follows:

a. Comparison of US and Soviet Capabilities Against [redacted] The increase in average yield of the Soviet missiles over the US missiles, as projected in the Soviet HI-HI and HI-LO forces, provides the Soviets with [redacted]

[redacted]

[redacted]

(See Appendix A, Annex B hereto.)

b. Comparison of US and Soviet Counterforce Capabilities. To examine the relative counterforce capabilities in damage limitation considering the foregoing disparities in [redacted]

[redacted]

(See Appendix B, Annex B hereto.)

DIPLOMATIC SUFFICIENCY

17. (U) Table 10 provides a comparison of the US and Soviet forces used in this analysis in terms selected for their evident

viability, i.e., delivery vehicles, warheads, megatons, equivalent megatons, and throw-weight. These terms are useful in comparing forces from a numerical viewpoint.

18. (TS) Table 10 also shows that, in 1979, the United States has an advantage only in [redacted]

TABLE 10

FORCE COMPARISONS FOR DIPLOMATIC SUFFICIENCY 1/
FY 1979

Soviet Forces

	Delivery Vehicles	Warheads	Megatons	Equivalent Megatons	Throw-Weight 2/
HI-HI	2621	4500	12230	7100	12500
HI-LO	2621	3230	10930	5240	11670

US Forces

	[redacted]
I - JSOP	
II - Current Program	
III - Limited Reduction Program	
IV - Reduced Program	

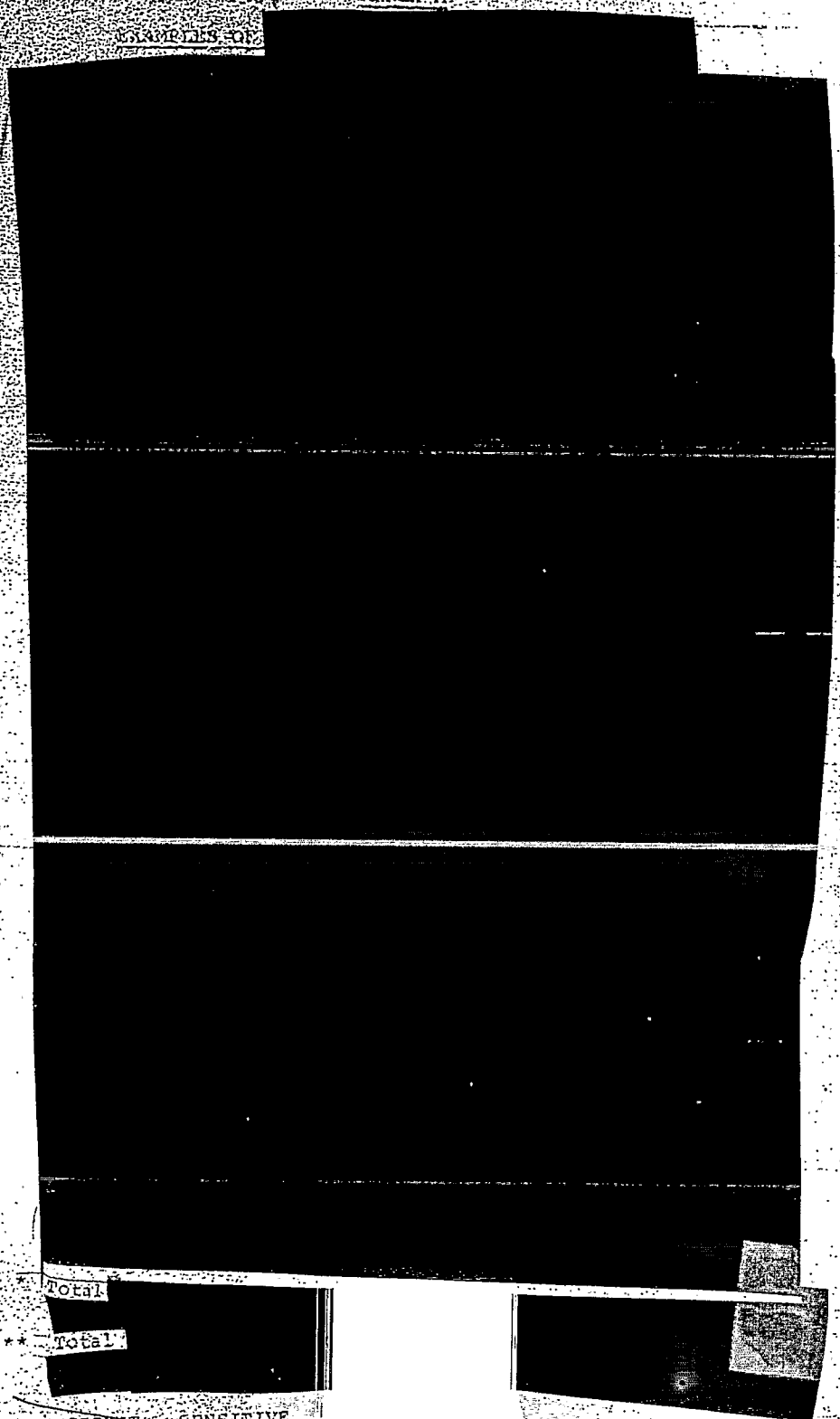
1/ Based on actual vehicle loadings with forces generated. Does not include total inventory of vehicles and warheads.

2/ Assumption: [redacted] For example,

19. (TS) Conclusion. These data indicate that, in other than [redacted] if the Soviets forces develop as projected in the HI-LO or HI-HI force in NIPP-70.

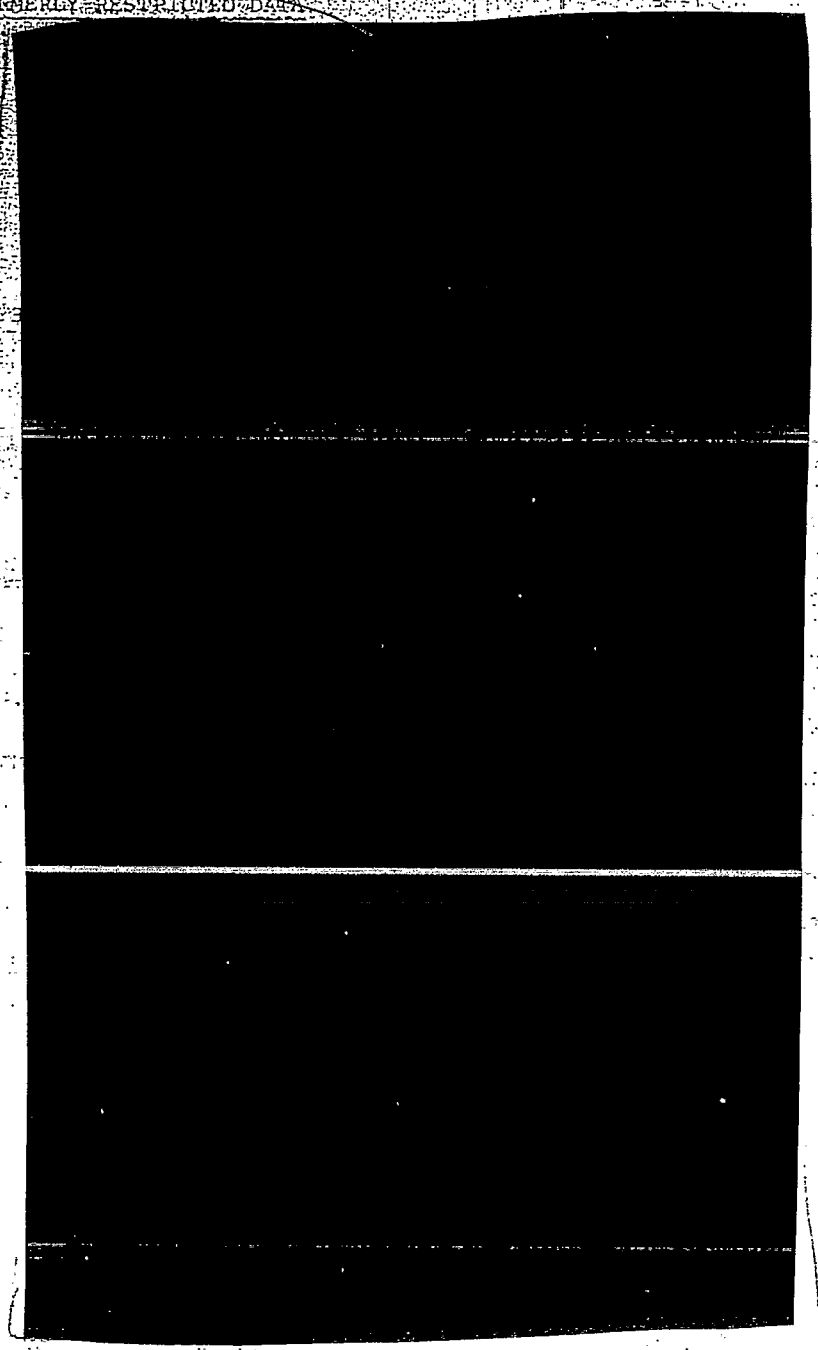
ANNEX A

EXAMPLES OF



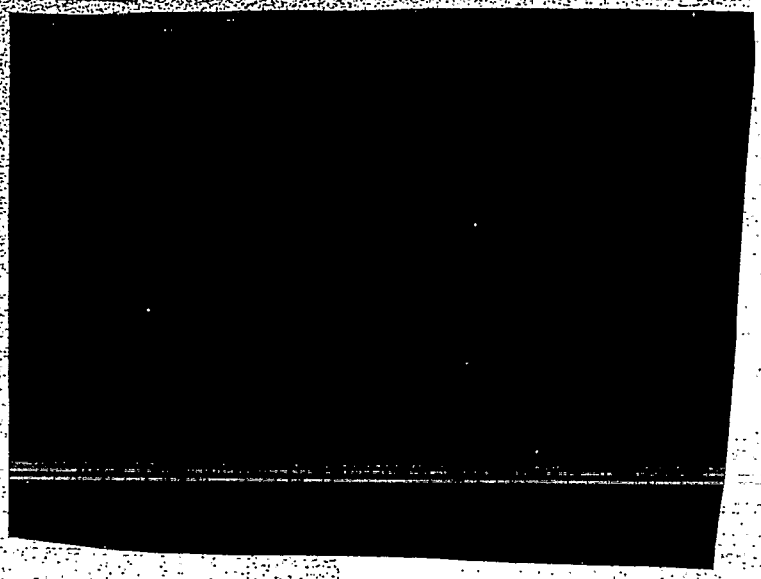
* Total

** Total



* Total

a. Mark



1
2
3
4
5
6
7
8
9
10
11
12

[redacted]

Total

ANNEX B

WAR GAME ANALYSIS BY THE STUDIES, ANALYSIS, AND GAMING AGENCY (SAGA)

(TS) General

a. Model. The Version 3600, Aggregated Multiple Attack Program (VALIMAR) war game model was used to allocate weapons and provide the damage comparisions. In the model, the value scheme used by the US Forces was based on the Joint Strategic Target Planning Staff (JSTPS) target-weighting system and that for the Soviets was based on the Red Integrated Strategic Offensive Plan - 1969 (RISOP-69).*

The attacks were sequential, that is the [redacted] years of 1974 and 1979 were examined using the scenario scheme shown in Table 1.

TABLE 1

GAME POSITIONS

SCENARIO	UNITED STATES POSTURE ROLE	USSR POSTURE ROLE
A	[redacted]	
B		
C		

b. [redacted] To parallel the Single Integrated Operational Plan (SIOP) targeting objectives, [redacted]

* Produced by the Joint Chiefs of Staff for use in wargaming SIOP Revision 4F.

[redacted] (The SIOP planning technique of applying [redacted]

c. Withholds. [redacted] A "military only" attack is expected to account for approximately [redacted] fatalities. Correspondingly, the damage achieved against the economic worth of [redacted] is approximately [redacted] percent. This is based on the assumption that [redacted]

d. Forces. US and Soviet Forces were as shown in Figures B-1, B-2, and B-3.

e. [redacted] were as shown in Figures B-4, B-5, and B-6 and are based on extrapolations from the current SIOP/RISOP target systems within the United States and the USSR. The USSR target base is

[redacted]

Comparing the target base of each country, excluding the [redacted] which constitute a basic difference in the total number of targets, the FY 1974 base is represented by [redacted] US targets versus [redacted] USSR targets, for a difference of [redacted] targets in the USSR base. A similar disparity exists in FY 1979, where the USSR base exceeds the US base by [redacted] targets. Using the target grouping from Figures CA-1 through CA-9, the target differences are as in Table 2.

TABLE 2

US-USSR Target Base Comparison

Targets**	1974 US	1974 USSR	1974 DIFF	1979 US	1979 USSR	1979 DIFF
[redacted]						
TOTALS						

Another important difference in the target bases is the number of [redacted] In the USSR target base for FY 1979, there are [redacted]

[redacted]

U.S. FORCE STRUCTURES - 1974

OFFENSIVE FORCE	I JSOP FY 72-79	II CURRENT PROGRAM	III LIMITED REDUCTION PROGRAM	IV REDUCED PROGRAM
[redacted]				
INTERCEPTORS				
USAF F-101	54	54	0	0
F-106	198	198	198	90
ANG F-101	54	54	108	0
F-102	216	234	72	25
F-106	0	0	0	108
TOTAL INTERCEPTORS	522	540	378	223

1/ Includes [redacted] out for modification.
2/ [redacted] in standard silos [redacted] psi)
3/ [redacted] in standard silos [redacted] psi)
in upgraded silos [redacted] psi)
4/ Includes nine [redacted] in forces I, II and III, and 11 in force IV out for conversion/overhaul.

US FORCE STRUCTURE - 1979

OFFENSIVE FORCE	I JSOP FY 72-79	II CURRENT PROGRAM	III LIMITED REDUCTION PROGRAM	IV REDUCED PROGRAM
ICBM				

[redacted]

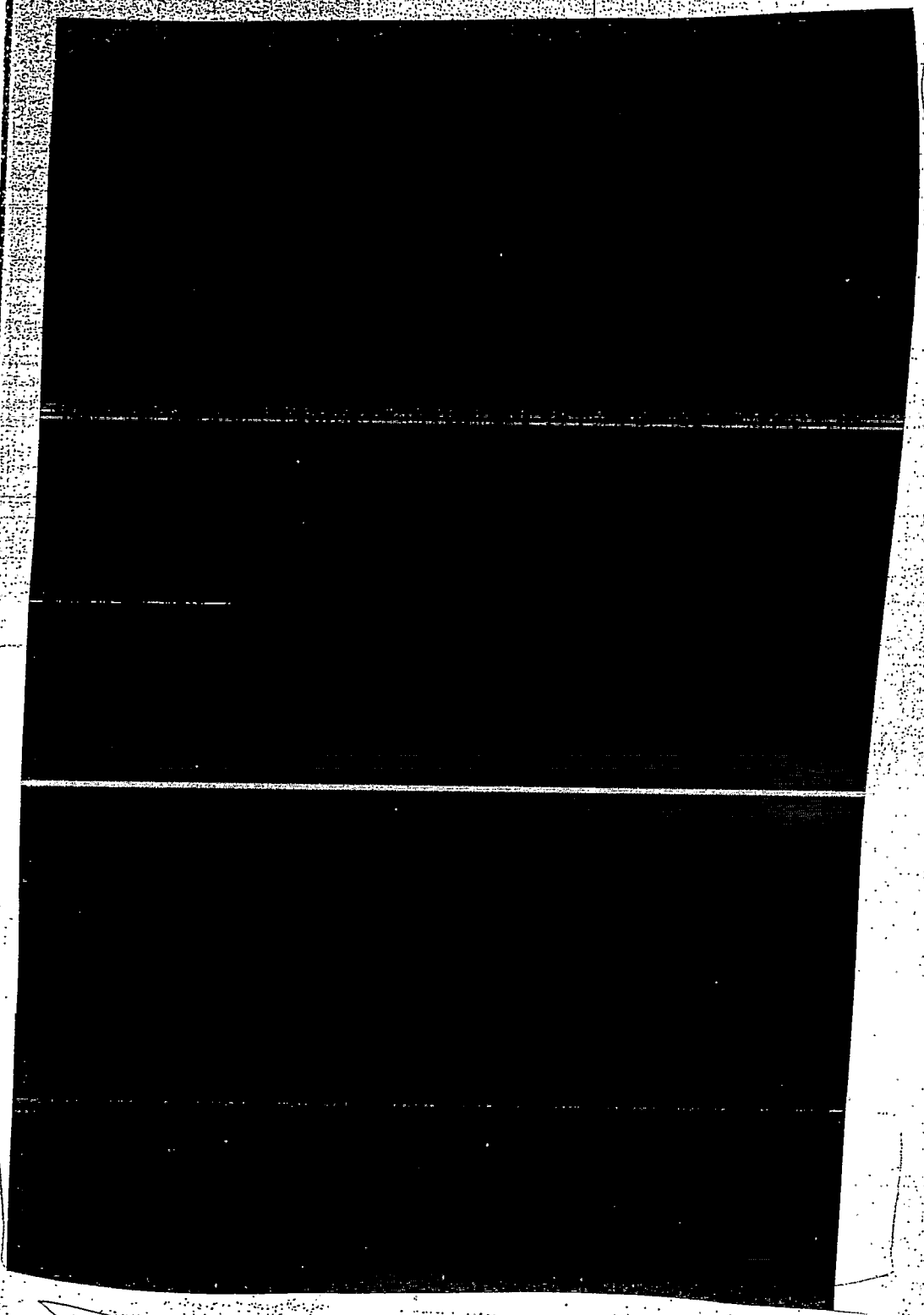
INTERCEPTORS				
USAF				
F-101	0	18	0	0
F-106	180	180	144	90
IMI	72	54	54	0
ANG				
F-101	90	72	108	0
F-102	0	90	18	25
F-106	18	0	54	108
TOTAL INTERCEPTORS	360	414	378	223

[redacted]

1/ Standard Silo = [redacted] psi/Upgraded Silo = [redacted] psi
2/ Hard Rock Silo = [redacted] psi
3/ 4 sites + NCA of [redacted] missiles
4/ Includes [redacted] POSEIDON SSBN in forces I, II, III and IV respectively out for conversion/overhaul.

FIGURE B-4

USSR FORCE STRUCTURE



TOP SECRET - SENSITIVE
FORMERLY RESTRICTED DATA

1974

MILITARY TARGETS WITHIN THE [redacted]

ALPHA TASK 1/	USG (FY 72-79)	CURRENT PROGRAM	LIMITED REDUCTION PROGRAM	REDUCED PROGRAM	VN
[redacted]					
SUB TOTAL ALPHA					
BRAVO TASK 1/					
[redacted]					
SUB TOTAL BRAVO					
CHARLIE TASK (MIL) 1/					
[redacted]					
TOTAL					

1/ As used in RISOP-69 tasking.
2/ R-Retaliation by USSR. P-Preemption by USSR.

TOP SECRET - SENSITIVE
FORMERLY RESTRICTED DATA

FIGURE B.4

1979

MILITARY TARGETS WITHIN THE [redacted]

		GROUP	CURRENT	LIMITED REDUCTION	REDUCED
ALPHA TASK 1/		(FY 72-79)	PROGRAM	PROGRAM	PROGRAM
[redacted]					
SUB TOTAL ALPHA					
BRAVO TASK 1/					
[redacted]					
SUB TOTAL BRAVO					
CHARLIE TASK (MIL) 1/					
[redacted]					
T O T A L					

1/ As used in RISOP-69 tasking.
2/ R-Retaliation by USSR. P-Preemption by USSR.

FIGURE B-5

MILITARY TARGETS WITHIN USSR

	1974	1979	ON
ALPHA TASK 1/	[redacted]		
SUB TOTAL ALPHA			
BRAVO TASK 1/			
SUB TOTAL CHARLIE			
TOTAL			

1/ Analagous to the US SIOP.
2/ R-Retaliation by US. P-Pre-emption by US.

Note: [redacted]

[redacted]

force objectives. The VALIMAR program was so addressed that both sides engaging in the war game were required to achieve their respective [redacted] damage to be eligible to receive credit for damage to the [redacted] Current SIOP damage analysis indicates that with [redacted] A similar 30 percent population correlation for the United States with [redacted] an iterative process is used in the VALIMAR model that stops when a solution is within ±2 percent of the desired goal. This can result in slight variations in the weapon allocation process against the remaining [redacted] Separate testing has indicated that these variations lead to differences of less that ±5 percent in terms of the number of [redacted] damaged in a particular case. This variation was considered when making relative force comparisons using the war game data.

g. [redacted]

2. (U) VALIDATE Damage Analysis. Appendix A hereto summarizes the percent damage to the [redacted] of both the United States and the USSR by major category using the USSR high numbers, low technology (HI-LO) high numbers, high technology (HI-HI) threat from National Intelligence Projections for Planning 1970 (NIPP 70).

3. (U) Other Analyses. Appendices B through D address the following areas:

a. Appendix B--US (Current Program) vs Soviet (HI-HI) [redacted]

b. Appendix C--ICBM Duel Analysis.

c. Appendix D-System Reliability.

4. (TS) Observations.

a. Both the United States and the USSR are capable of achieving their [redacted] under all of the conditions gamed in both 1974 and 1979.

b. The capability to strike effectively the [redacted] except those using the JSOP (FY 1972-1979) force in 1979. This is due to the [redacted]

c. In scenarios where the United States was assumed to fully generate its forces, [redacted] In these cases, the [redacted]

d. In terms of relative numbers of [redacted] damaged, the game results indicate that for the scenarios examined:

(1) 1972-1979. Against the HI-LO threat, the United States, in retaliation, is generally superior when its forces are generated. In the day-to-day posture [redacted]

(2) 1979. Against the HI-HI threat, the United States, in retaliation, is [redacted]

e. [redacted] (see Figures BA-10 and BA-11). [redacted] against the HI-LO or HI-HI threat (see Figures BA-6 and BA-9).

f. In all cases considered, only the JSOP (FY 1972-1979) force in 1979 can [redacted] (see Figures BA-12 and BA-13).

g. Using the HI-HI threat against each of the US Forces in 1979, the USSR is able to attain [redacted] (see Figures BA-7 and BA-8).

h. [redacted]

1. A static comparison of Soviet (HI-HI) and US (Current Program) missile capability against

[redacted]

(see Appendix B hereto).

2. Incremental ICBM exchanges using the US Current Program and the Soviet HI-HI forces for 1979, show that within any credible scenario the

[redacted]

(see Appendix C hereto).

3. Improvement of weapon system reliabilities in the

[redacted]

(see Appendix D hereto).

5. (TS) Summary

a. In most conditions examined, the JSOP FY 1972-1979 force

[redacted]

b. There appear to be no major differences among the

[redacted]

[redacted]

c. When the Soviet HI-HI threat strikes first,

[redacted]

except when opposing the JSOP FY 1972-1978 force (see figures BA-7, BA-8 and BA-11).

APPENDIX A

VALIMAR WAR GAME SUMMARY

1. (S) General. Figures BA-1 through BA-6 summarize the percent damage to the [redacted] of both the United States and the USSR by major category using the USSR high numbers, low technology (HI-LO) threat from National Intelligence Projections for Planning 1970 (NIPP-70). Figures BA-7, BA-8, and BA-9 depict the damage summaries when the FY 1979 forces oppose the USSR high numbers, high technology (HI-HI) threat. Figures BA-10 and BA-11 resummarize the foregoing data based on comparisons between the total expected damage to each country's [redacted]

Figures BA-12 and BA-13 depict the damage summaries to [redacted] in the USSR [redacted]

2. (TS) Comments, FY 1974 vs. HI-LO Threat.

a. Under all US force structures considered in a US [redacted] retaliation posture, [redacted] (see Figure BA-1).

b. Under conditions of US [redacted] (see Figure BA-2).

c. Under conditions of US preemption [redacted] The JSOP FY 72-79 force is able to [redacted]

[redacted]

(see Figure BA-3).

d. In conclusion, considering all FY 1974 forces, both the United States and the USSR attain [redacted] fatalities and [redacted]

3. (TS) Comments: FY 1979 vs HI-LO Threat

a. Of the US forces considered in day-to-day retaliation, the JSOP FY 72-79 force [redacted]

(See Figure BA-4).*

b. Under US retaliation from [redacted] The ability of the forces to restrict damage to the United States is generally the same as stated in sub-paragraph 2(b) above (see Figure BA-5).

c. Under US preemption, the JSOP FY 72-79 [redacted]

* It should be noted that the [redacted]

[redacted] (see Figure BA-6).

(TS) Comments, FY 1979 vs. HI-HI Threat

a. Of the forces considered in day-to-day retaliation, the JSOP FY 72-79 and the Current Program forces are the only forces able to inflict damage to the USSR [redacted] (see Figure BA-7).

b. [redacted] (see Figure BA-7).

c. During US retaliation [redacted] Only the JSOP FY 72-79 force has significant capability against Soviet [redacted] (see Figure BA-8).*

5. (TS) Comments, Support to NATO. The support to NATO, at first, appears [redacted] in the charts at Figures [redacted]

* It should be noted that the [redacted]

BA-1 through BA-11.

[redacted] is shown

in figures BA-12 and BA-13. In all game cases,

[redacted] When

the JSOP FY 72-99 and the Current Program Forces are employed

in 1979,

[redacted]

USSR STRIKES FIRST
US RETALIATES FROM DAY TO DAY POSTURE

FY 1974

US FORCE	TGT DAM	TGT ATK	TGT* BASE	% DAMAGE TO USSR**	% DAMAGE TO US**	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
JSOP FY72-79	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	68	68	62	HIGH NUMBERS, LOW TECHNOLOGY
						1045	1000	323	
					N/A	N/A	N/A	N/A	
						616	586	433	
CURRENT PROGRAM						68	68	62	
						1036	700	320	
					N/A	N/A	N/A	N/A	
						616	586	438	
LIMITED REDUCTION PROGRAM						68	68	61	
						1000	700	320	
					N/A	N/A	N/A	N/A	
						616	586	433	
REDUCED PROGRAM						68	68	62	
						1000	1000	325	
					N/A	N/A	N/A	N/A	
						616	586	430	

* ONLY [redacted] TARGETED IN RETALIATION.
** [redacted]
*** Definition footnoted on page B-13.

FIGURE BA-1

USSR STRIKES FIRST
US RETALIATES FROM ADVANCED READINESS POSTURE

FY 1974

US FORCE	TGT DAM	TGT ATK	TGT * BASE	% DAMAGE TO USSR**	% DAMAGE TO US **	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
JSOP FY72-79	[redacted]					68	68	62	HIGH NUMBERS LOW TECHNOLOGY
						1045	1000	323	
						N/A	N/A	N/A	
						616	586	434	
CURRENT PROGRAM						68	68	61	
						1036	700	319	
						N/A	N/A	N/A	
						616	586	437	
LIMITED REDUCTION PROGRAM						68	68	62	
						1000	700	321	
						N/A	N/A	N/A	
						616	586	437	
ANNOUNCED PROGRAM						68	68	62	
						1000	1000	325	
						N/A	N/A	N/A	
						616	596	430	

* ONLY [redacted] TARGETED IN RETALIATION.
** [redacted]
*** Derivation footnoted on page B-15.

FIGURE BA-2

US STRIKES FIRST
USSR RETALIATES FROM ADVANCED READINESS POSTURE

FY 1974

US FORCE	TGT LAM	TGT ATK	TGT BASE	% DAMAGE TO USSR*	% DAMAGE TO US*	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
JSOP FY72-79	[redacted]					68	68	64	HIGH NUMBERS LOW TECHNOLOGY
						1045	0	0	
						N/A	N/A	N/A	
						616	616	574	
CURRENT PROGRAM						68	68	64	
						1036	0	0	
						N/A	N/A	N/A	
						616	615	575	
LIMITED REDUCTION PROGRAM						68	68	64	
						1000	0	0	
						N/A	N/A	N/A	
						616	615	573	
[redacted] PROGRAM						68	68	64	
						1000	0	0	
						N/A	N/A	N/A	
						616	615	572	

[redacted] TARGETED IN USSR RETALIATION.
*** Definition footnoted on page B-15.

FIGURE BA-3

USSR STRIKES FIRST
US RETALIATES FROM DAY-TO-DAY POSTURE

US FORCE	TGT DAM	TGT ATK	TGT BASE	% DAMAGE TO USSR* FY 1979	% DAMAGE TO US* TGT BASE	TGT ATK	TGT DAM	USSR FORCE
[redacted]					68	68	61	HIGH NUMBERS LOW TECHNOLOGY
					1027	697	491	
					N/A			
					616	554	397	
					68	68	60	
					1036	693	414	
					N/A			
					616	582	414	
					68	68	62	
					1000	754	459	
					N/A			
					616	584	460	
					68	68	61	
					1000	1000	529	
					N/A			
					616	586	427	

** Definition: See Footnote Page B-15.

FIGURE BA-4

USSR STRIKES FIRST
US RETALIATES FROM ADVANCED READINESS POSTURE

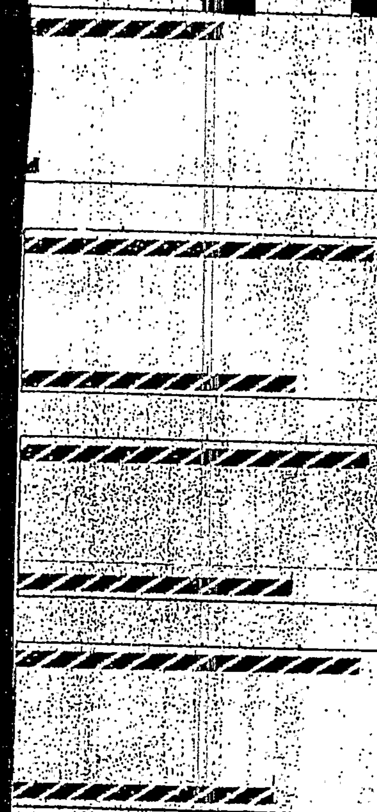
FORCE	TGT DAM	TGT ATK	TGT BASE	% DAMAGE TO USSR* FY 1979	TGT BASE	TGT ATK	TGT DAM	% DAMAGE TO US*	USSR FORCE
[redacted]					68	68	61		HIGH NUMBERS LOW TECHNOLOGY
					1027	697	492		
					N/A				
					616	554	397		
					68	68	60		
					1036	693	414		
					N/A				
					616	582	414		
					68	68	62		
					1000	754	459		
					N/A				
					616	584	460		
					68	68	61		
					1000	1000	529		
					N/A				
					616	586	427		

** Definition: See Footnote Page B-15.

FIGURE BA-5

US STRIKES FIRST
USSR RETALIATES FROM ADVANCED READINESS POSTURE

FY 1979

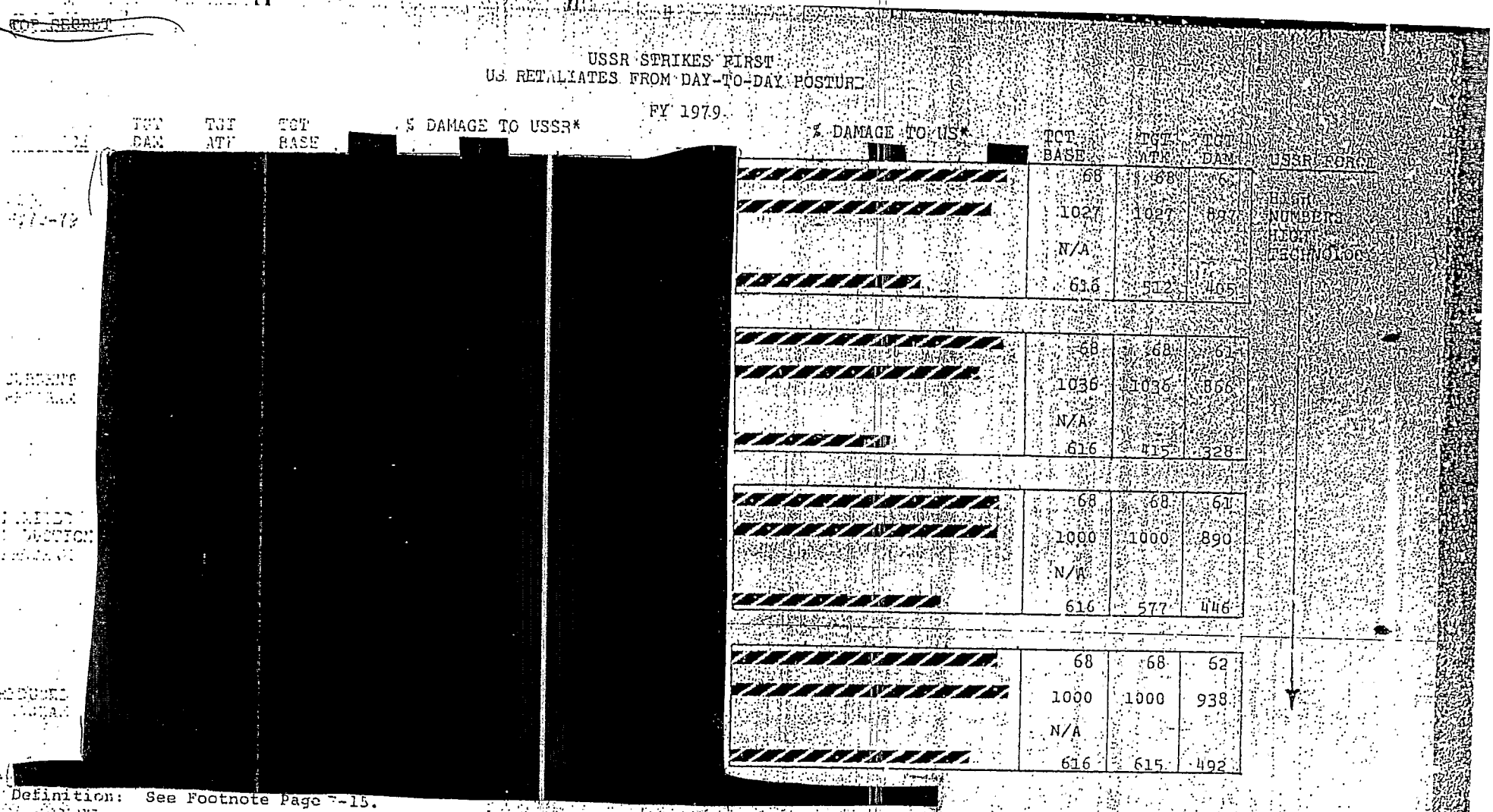
US FORCE	TGT DAM	TGT ATK	TGT BASE	% DAMAGE TO USSR*	% DAMAGE TO US*	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
[illegible] 72-75	[redacted]					68	68	34	HIGH NUMBERS LOW TECHNOLOGY
						1027	[illegible]	0	
						N/A			
						616	82	20	
[illegible]						68	68	61	
						1036	0	0	
						N/A			
						616	615	137	
[illegible] REDUCTION [illegible]						68	88	62	
						1000	0	0	
						N/A			
						616	615	442	
[illegible]						68	68	62	
						1000	0	0	
						N/A			
						606	615	425	

** Definition: See Footnote Page B-15.

FIGURE BA-6

USSR STRIKES FIRST
US RETALIATES FROM DAY-TO-DAY POSTURE

FY 1979



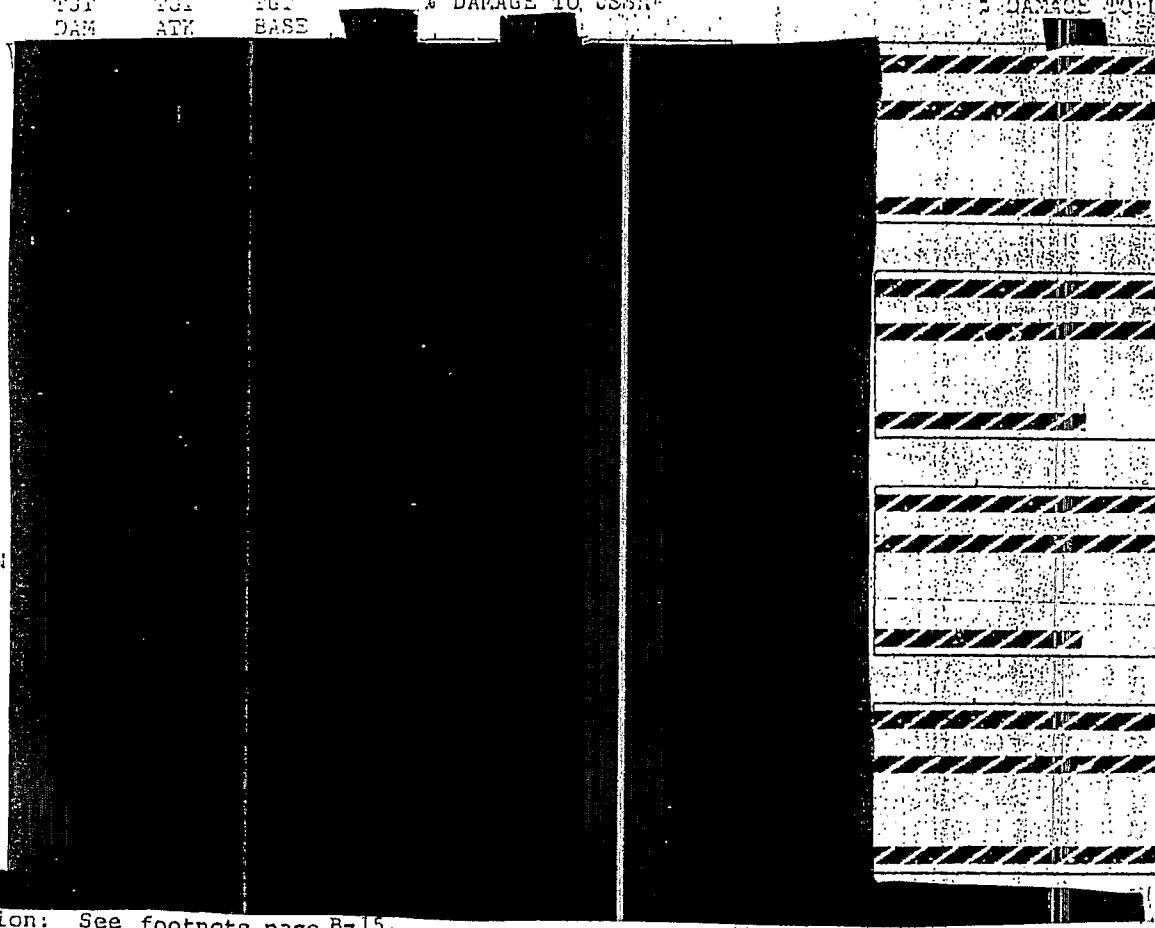
	TGT DAM	TGT ATT	TGT BASE	% DAMAGE TO USSR*	% DAMAGE TO US*	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
[redacted]						68	68	6	
						1027	1027	807	NUMBERS
						N/A			[redacted]
						616	512	165	[redacted]
						68	68	61	
						1036	1036	866	
						N/A			
						616	415	328	
						68	68	61	
						1000	1000	890	
						N/A			
						616	577	446	
						68	68	62	
						1000	1000	938	
						N/A			
						616	615	492	

* Definition: See Footnote Page A-15.

FIGURE BA-7

USSR STRIKES FIRST
US RETALIATES FROM ADVANCED READINESS POSTURE

FY 1979



US FORCE	TGT DAM	TGT ATK	TGT BASE	% DAMAGE TO USSR*	% DAMAGE TO US*	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
[illegible]						68	68	60	HIGH NUMBERS HIGH TECHNOLOGY
						1027	1027	892	
						N/A			
						616	534	424	
CURRENT PROGRAM						68	68	61	
						1036	1036	866	
						N/A			
						616	417	329	
LIMITED REDUCTION PROGRAM						68	68	60	
						1000	1000	900	
						N/A			
						616	420	332	
REDUCED PROGRAM						68	68	62	
						1000	1000	932	
						N/A			
						616	615	504	

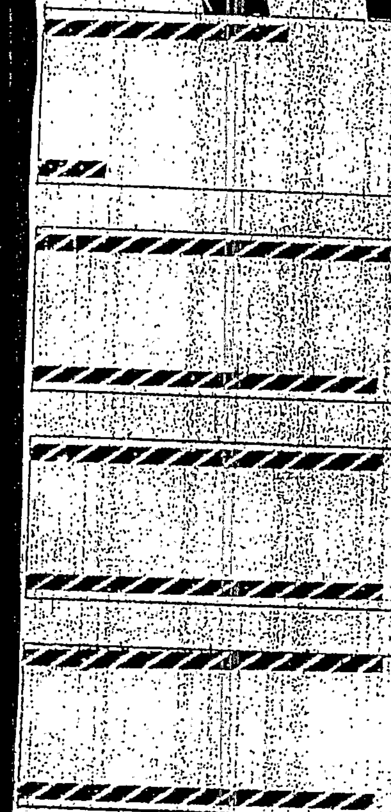
** Definition: See footnote page B-15.

FIGURE BA-8

US STRIKES FIRST
USSR RETALIATES FROM ADVANCED READINESS POSTURE

FY 1979

[illegible]	TGT DAM	TGT ATK	TGT BASE	% DAMAGE TO USSR*	% DAMAGE TO US*	TGT BASE	TGT ATK	TGT DAM	USSR FORCE
[illegible]-79	[redacted]					68	68	[illegible]	NUMBER [illegible]
						1027	0	[illegible]	
						N/A			
						616	305	97	
CURRENT [illegible]						68	68	62	
						1036	0	0	
						N/A			
						616	616	554	
[illegible]						68	68	62	
						1000	0	0	
						N/A			
						616	616	570	
[illegible]						68	68	64	
						1000	0	0	
						N/A			
						616	616	574	



** See Definition: See Footnote Page B-1[illegible].

FIGURE BA-9

MILITARY TARGETS

EXPECTED DAMAGE & RESIDUAL
(Excluding [redacted])

USSR HI-LO Threat

SCENARIO 2/	1974 FORCE 1/ I	II	III	IV	1979 FORCE I	II	III	IV
TARGETS								
A	[redacted]							
B	[redacted]							
C	[redacted]							

1/ I - [illegible] (7[illegible]-79)
II - Current Program
III - Limited Reduction Program
IV - [illegible] Program

2/ [illegible] this Annex.

[illegible] Damage to US Residual

[illegible] Damage to [illegible]

MILITARY TARGETS

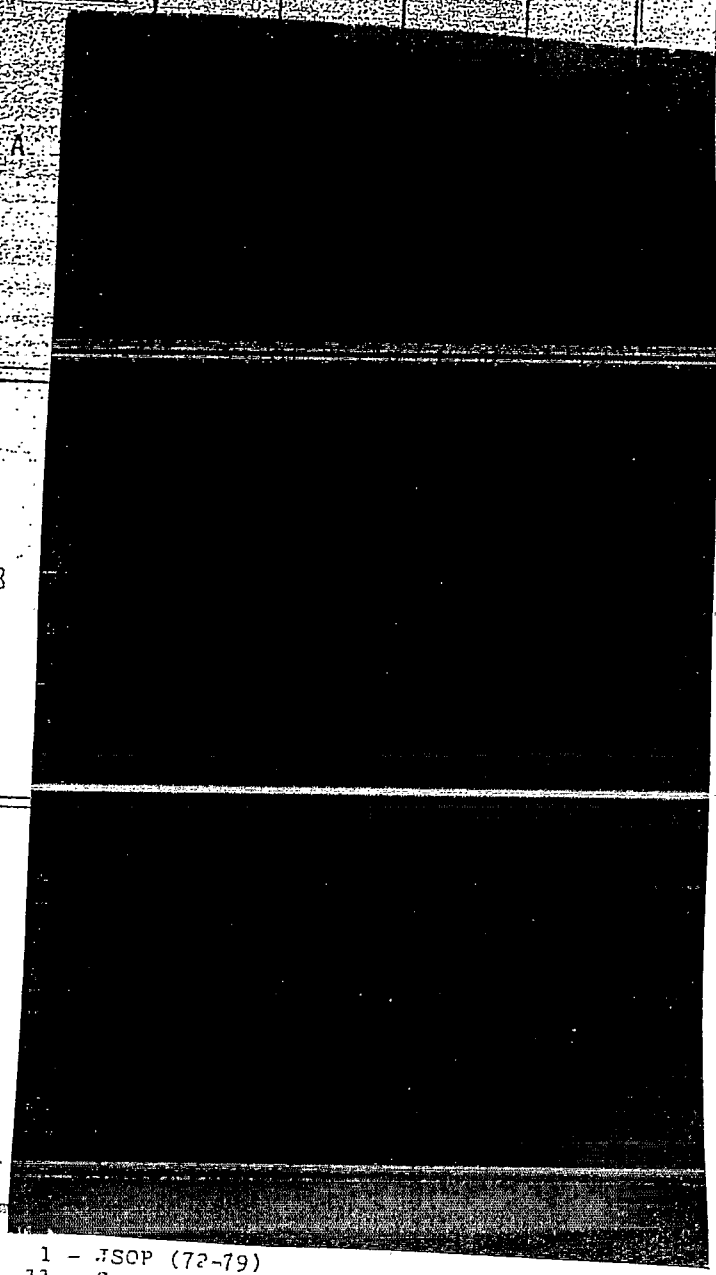
EXPECTED DAMAGE & RESIDUAL

(Exceeding [redacted])

USSR Hi-Hi Threat

1979 FORCE 1/

SCENARIO 2/	II	III	IV
TARGETS			
A			
B			
C			



1/ I - JSOP (72-79)
II - Current Program
III - Limited Reduction Program
IV - Reduced Program

2/ SCENARIO - See Page 1 of this Annex.

CODE: Damage to US | Residual | Damage to USSR

FIGURE-BA-11

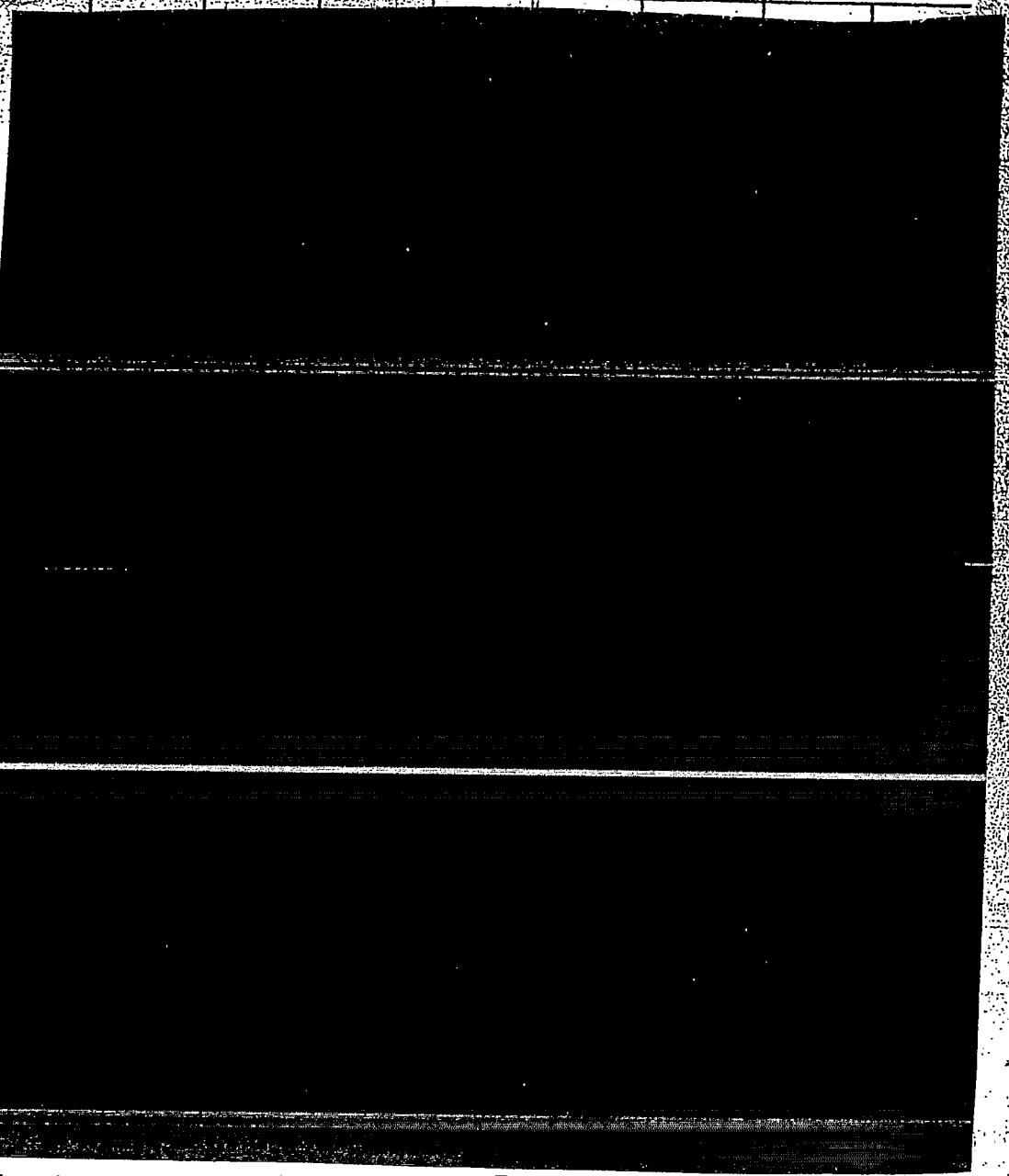
~~TOP SECRET~~

USSR HI-LO THREAT

NATO ORIENTED AIRFIELDS 3/

EXPECTED DAMAGE & RESIDUAL

(Excluding [redacted])



1/ 1 - JSOP (72-79)
11 - Current Program
111 - Limited Reduction Program
1V - Reduced Program

2/ SCENARIO - See Page 1 of this Annex.

3/ [redacted]

CODE: Damage to USSR; Residual

~~TOP SECRET~~

FIGURE BA-12

TOP SECRET

USSR HI-HI THREAT

NATO ORIENTED AIRFIELDS 3/

EXPECTED DAMAGE & RESIDUAL

(Excluding [redacted])

1979 FORCE 1/

SCENARIO 2/	I	II	III	IV
A	[redacted]			
B				
C				

1/ I - JSOP (72-79)
II - Current Program
III - Limited Reduction Program
IV - Reduced Program

2/ SCENARIO - See Page 1 of this Annex.

3/ [redacted]

CODE: Damage to USSR Residual

TOP SECRET

FIGURE BA-13

APPENDIX B

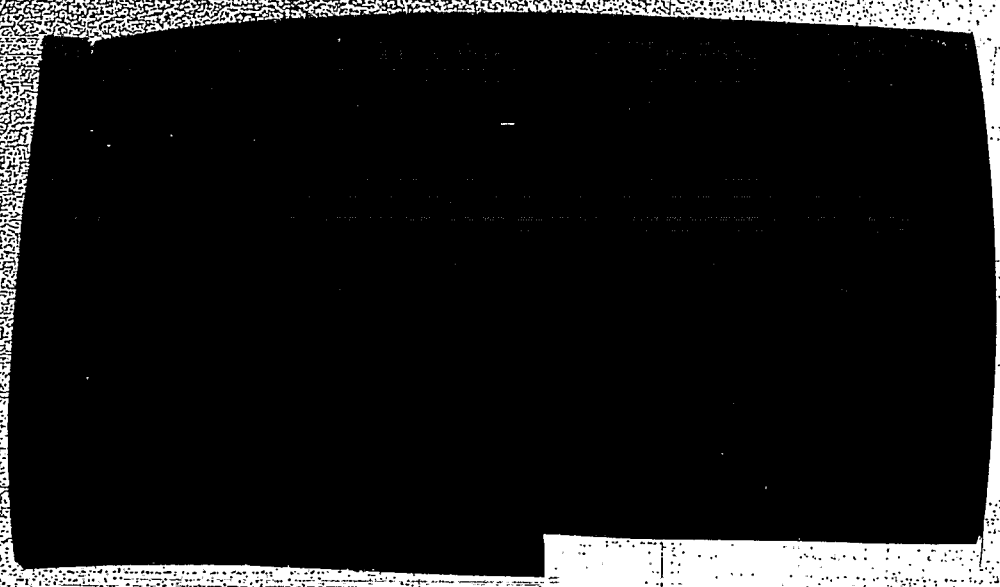
US (CURRENT PROGRAM) VS SOVIET (HIGH NUMBERS, HIGH TECHNOLOGY) HARD TARGET CAPABILITIES

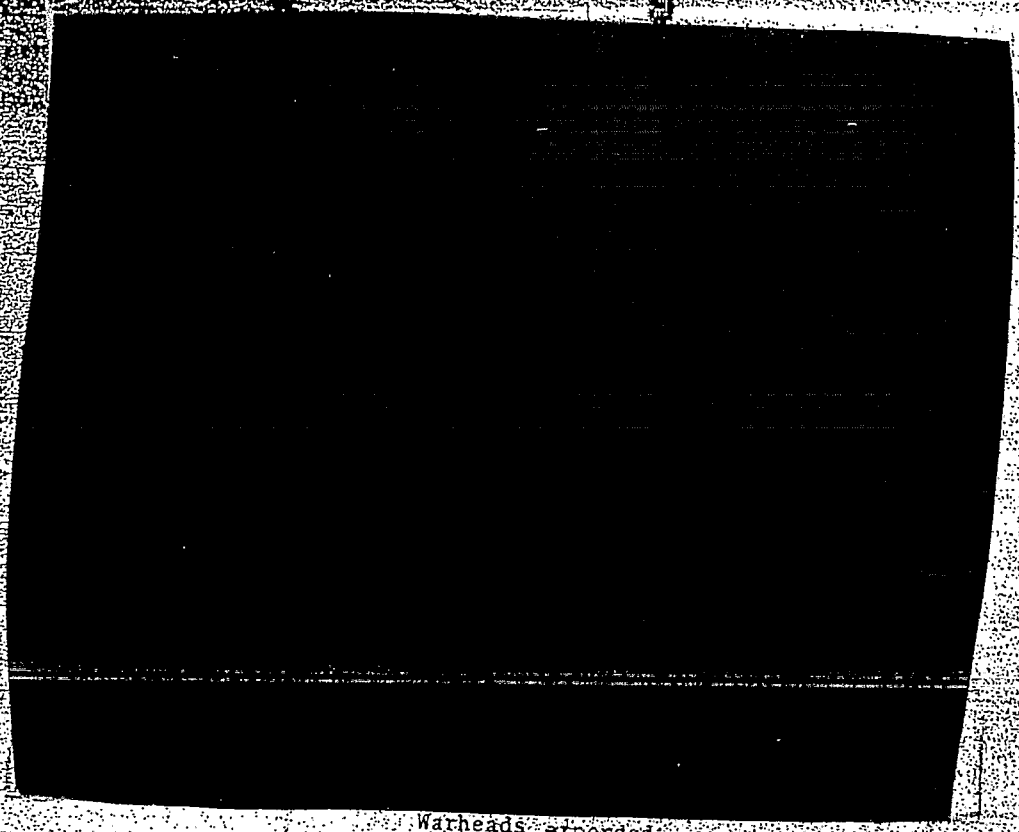
1. (TS) The higher average yield of Soviet missiles compared to US missiles provides

[redacted]

2. (TS) Considering the actual

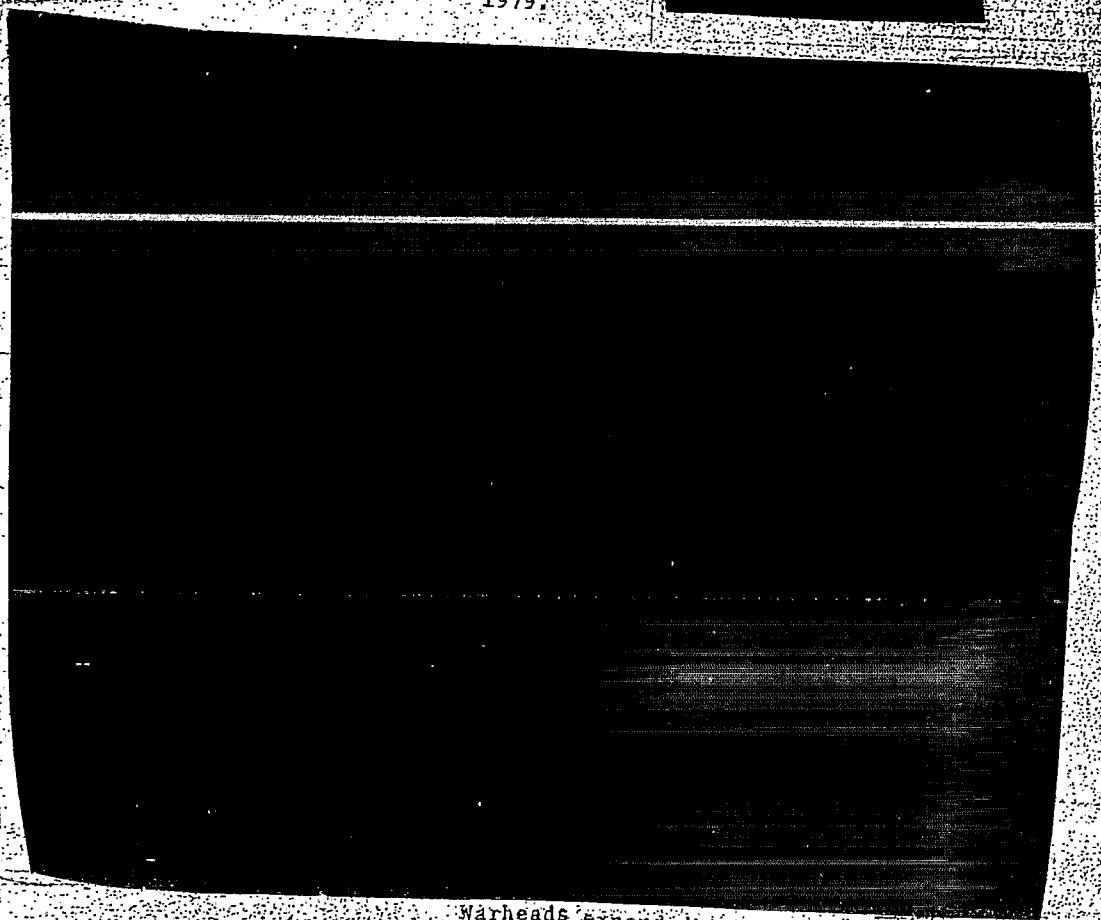
[redacted]





Warheads expended

Figure BB-1. Comparison of [redacted] 1979.



Warheads expended

Figure BB-2. [redacted] Against Actual Target Base, 1979.

APPENDIX C

ICBM DUEL ANALYSIS (U)

(TS) Using the US Current Program (Force II-1979) and the Soviet high numbers, high technology (HI-HI) 1979 force, [redacted] were gamed to illustrate relative counterforce capabilities. Both forces were generated and did not have empty silo information available to them. In the [redacted] duels (Figure BC-1) the incremental exchanges begin with a Soviet attack. The duels terminate when the US Force is reduced below an attack capability level. In duels [redacted] (Figure BC-2), the US Forces initiate the exchange but the duels terminate as in the [redacted] Scenarios used in the duels were as follows:

DUEL	ATTACK			
No	By	With	Against	
[redacted]				

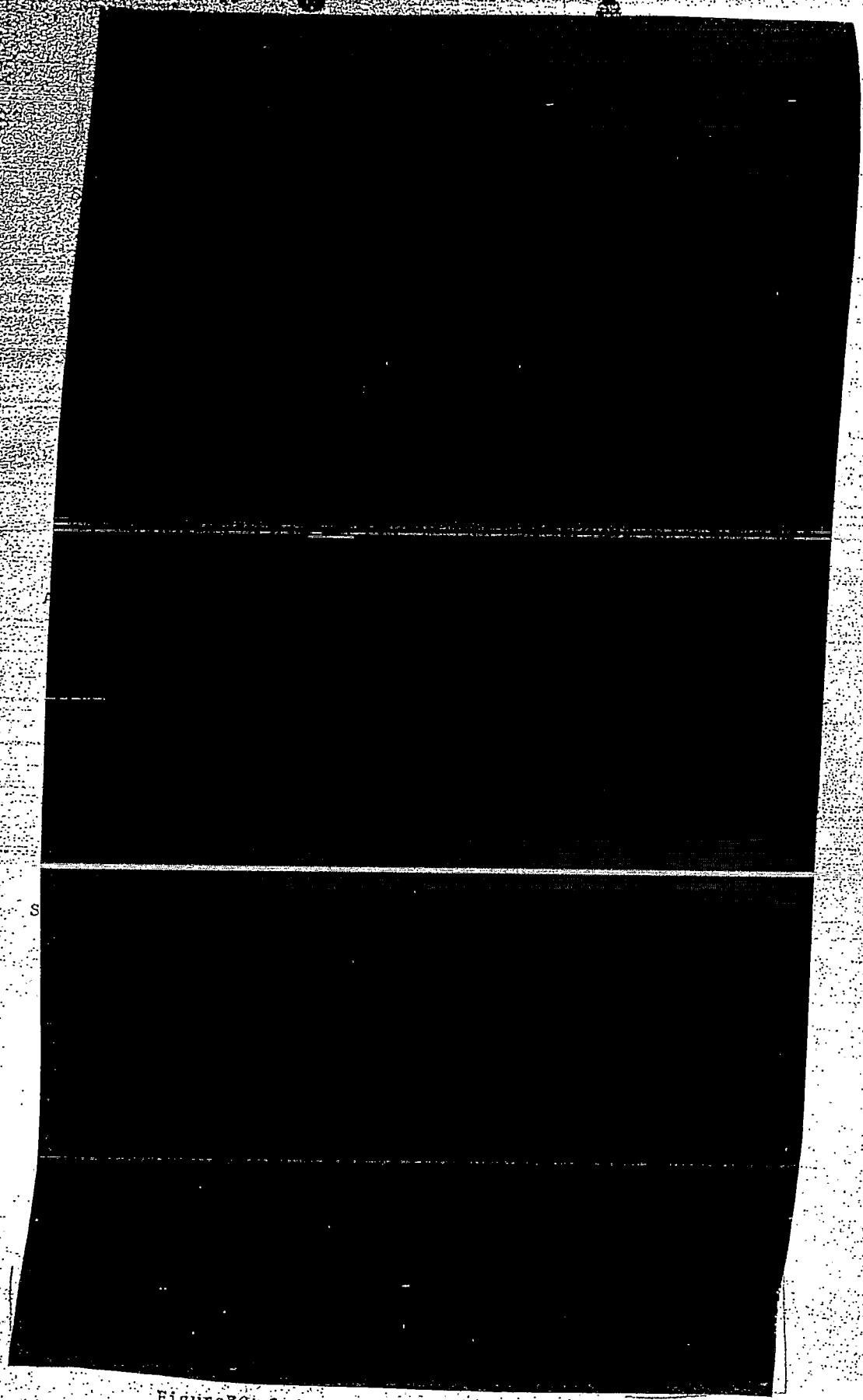


Figure BC-2 (TS) ICBM DUEL (US initiates)

(TS) In all cases the duels terminated with the [redacted] While the specific results are functions of the scenarios used, any variation of scenario using the same force structures would produce similar results.

(TS) Using the US Current Program and the Soviet HI-HI 1979 force, in order to compare each force's ability to limit damage by employing counterforce attacks,

[redacted]

[illegible] damage limiting is possible by employing counterforce attacks tailored to a specific capability threat, no counterforce effort can remove the opposing force's ability to retaliate. [redacted]

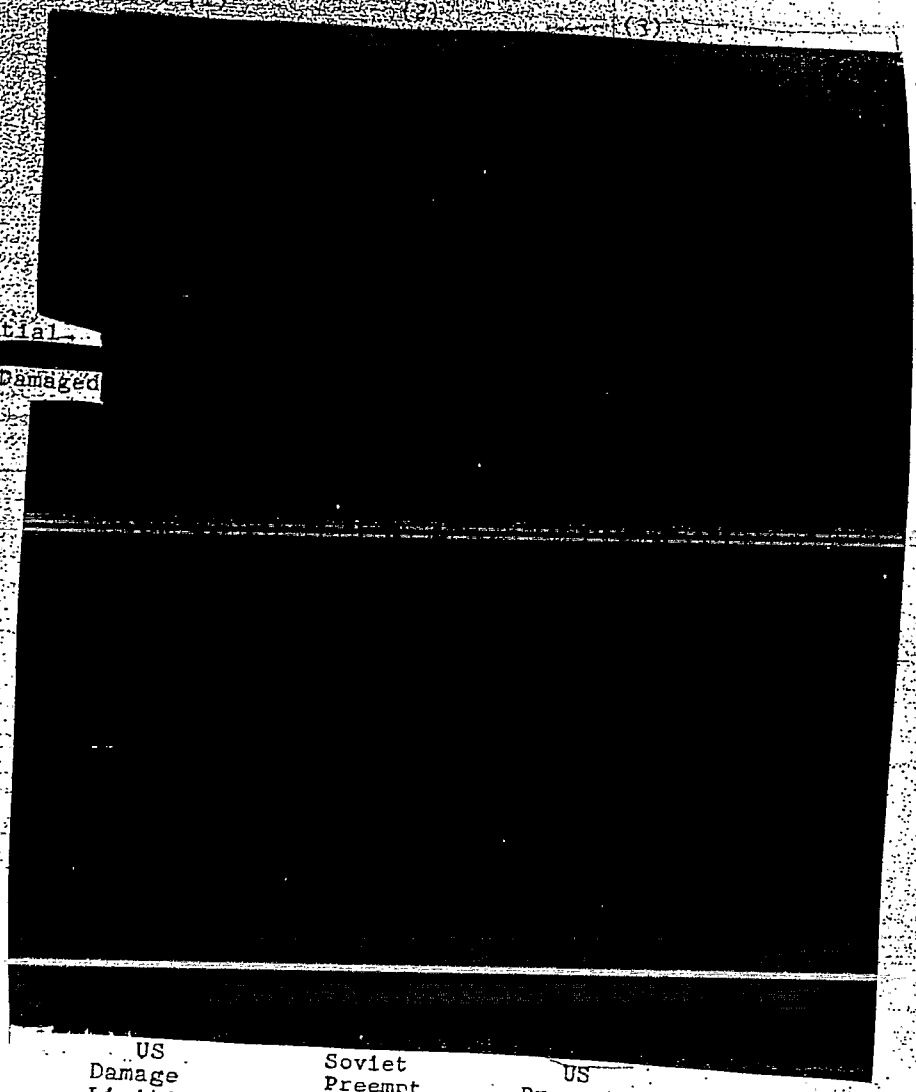


Figure BC-3 (TS) Damage Limiting and Preemptive Attacks

APPENDIX D

SYSTEM RELIABILITY (U)

1. (TS) Weapon system reliabilities (WSR) (nonreprogrammable) used in the war game analyses for [redacted] were as shown. [redacted] The effects of possible improvements to system reliability are shown for three stages of improvement (A, B, C) in Figure BD-1 using the following parameters:

Table BD-1

Wpn	Yield	CEP	WSR			Alert Rate
			A	B	C	
[redacted]						

The top set of curves represents an attack on [redacted] The bottom set of curves shows similar attacks using [redacted]

2. (TS) With [redacted] (e.g., a scenario in which the [redacted] the system reliability improvements can result in an additional [redacted] However, with the [redacted]

[redacted]

1

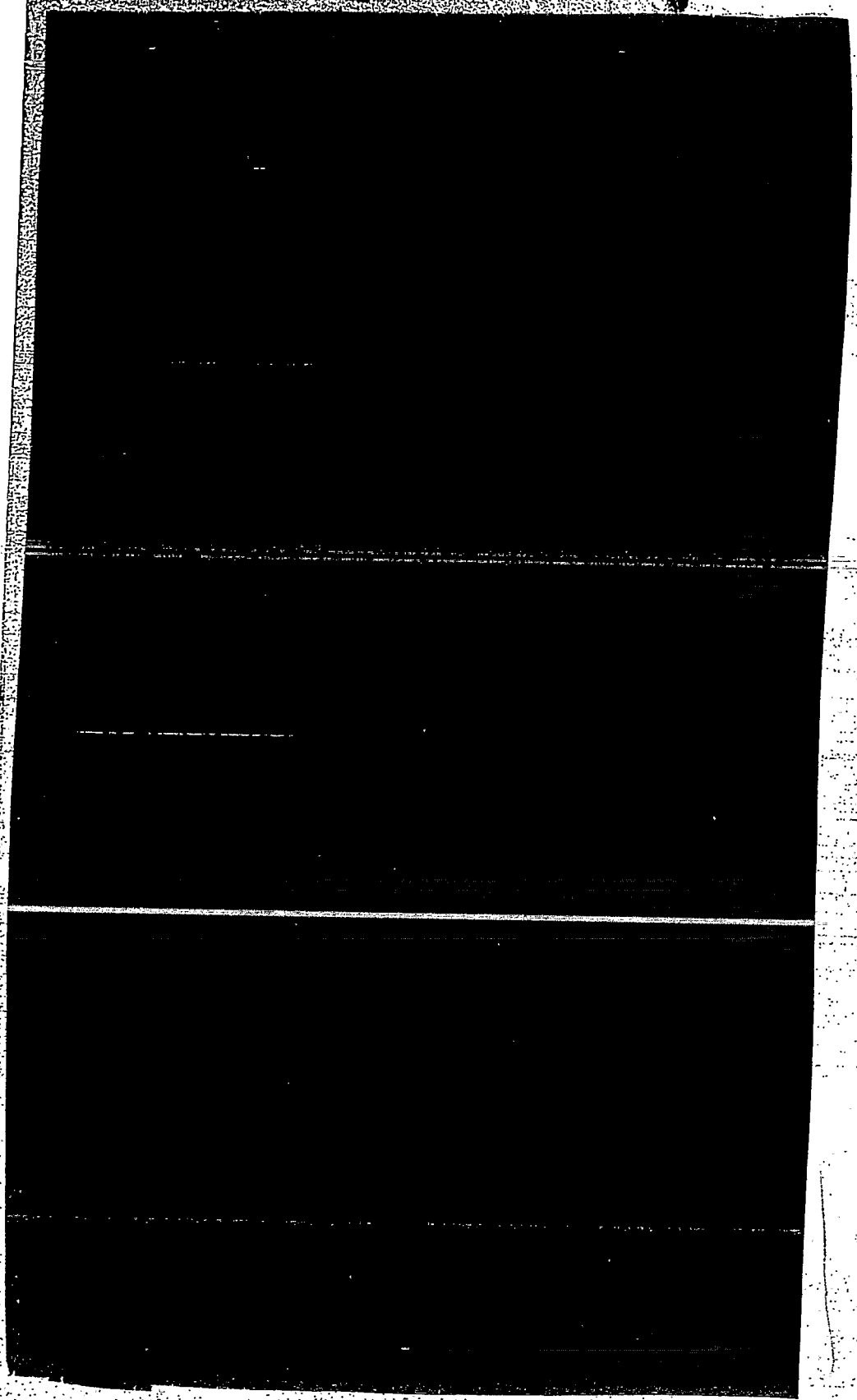
2

3

4

5

GROUP 3
DOWNGRADED AT 12 YEAR
INTERVALS; NOT
AUTOMATICALLY DECLASSIFIED



TOP SECRET

Figure BD-1

ANNEX C

VALIMAR MODEL

1. (U) The VALIMAR war game simulation model used in this analysis is a derivation of the Code 50 model designed by the Lambda Corporation. It is used by the Joint Staff in the analysis of strategic force capabilities. This Annex will discuss and present the results of test runs performed by the Studies, Analysis, and Gaming Agency, OJCS, whose purpose was to examine the validity of VALIMAR predictions in terms of weapon allocations and damage expectancies.

2. (U) Methodology.

a. Various SIOP factors were incorporated into the VALIMAR routines and the subsequent outputs compared with SIOP (Revision H) damage predictions. Principal factors that were used by VALIMAR in this comparison included:

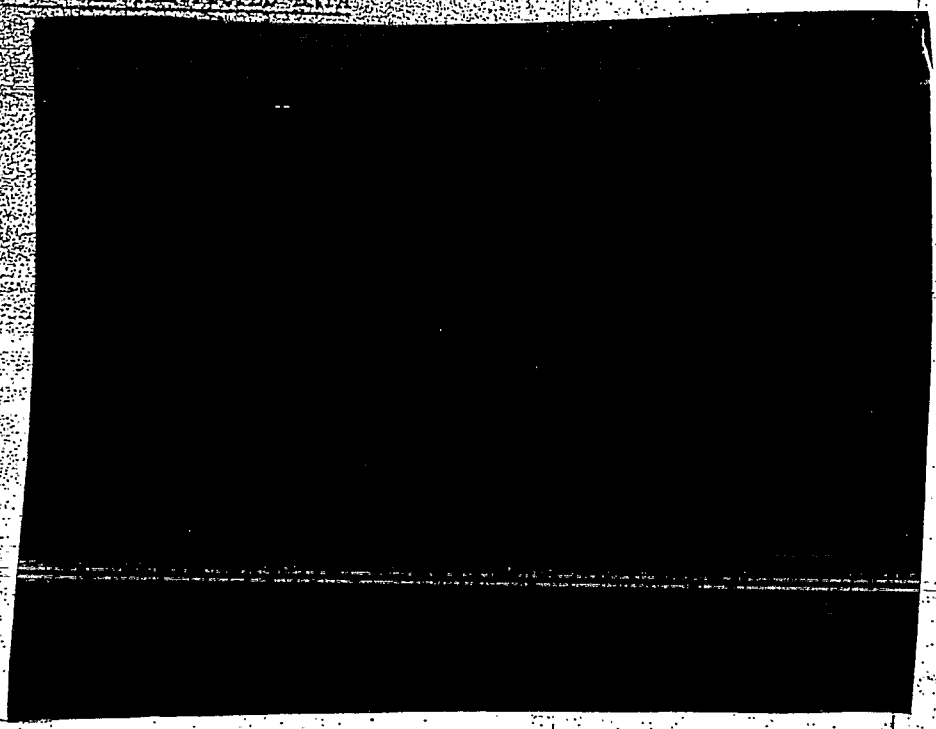
(1) A target value scheme based on the JSTPS Target Weighting System Manual.

(2) Vulnerability numbers for targets as used in the NSTDB.

(3) JSTPS planning factors such as: Pre-launch survivabilities, probabilities of penetration, weapon system reliabilities, and CEPs.

(4) [redacted] attack objectives defined in terms of the expected number of prompt fatalities incidental to a SIOP execution against the Soviet [redacted] base.

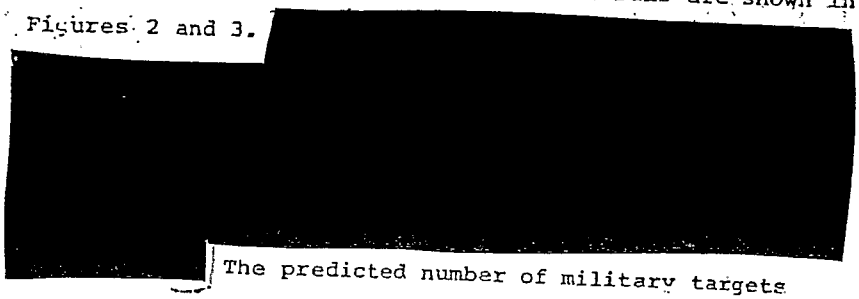
b. Damage evaluation was restricted to the USSR and only those SIOP forces programmed into the Soviet Union were considered. For the games, US bombers were not considered available to attack [redacted] Three US positions were examined:



3. (U) Analysis

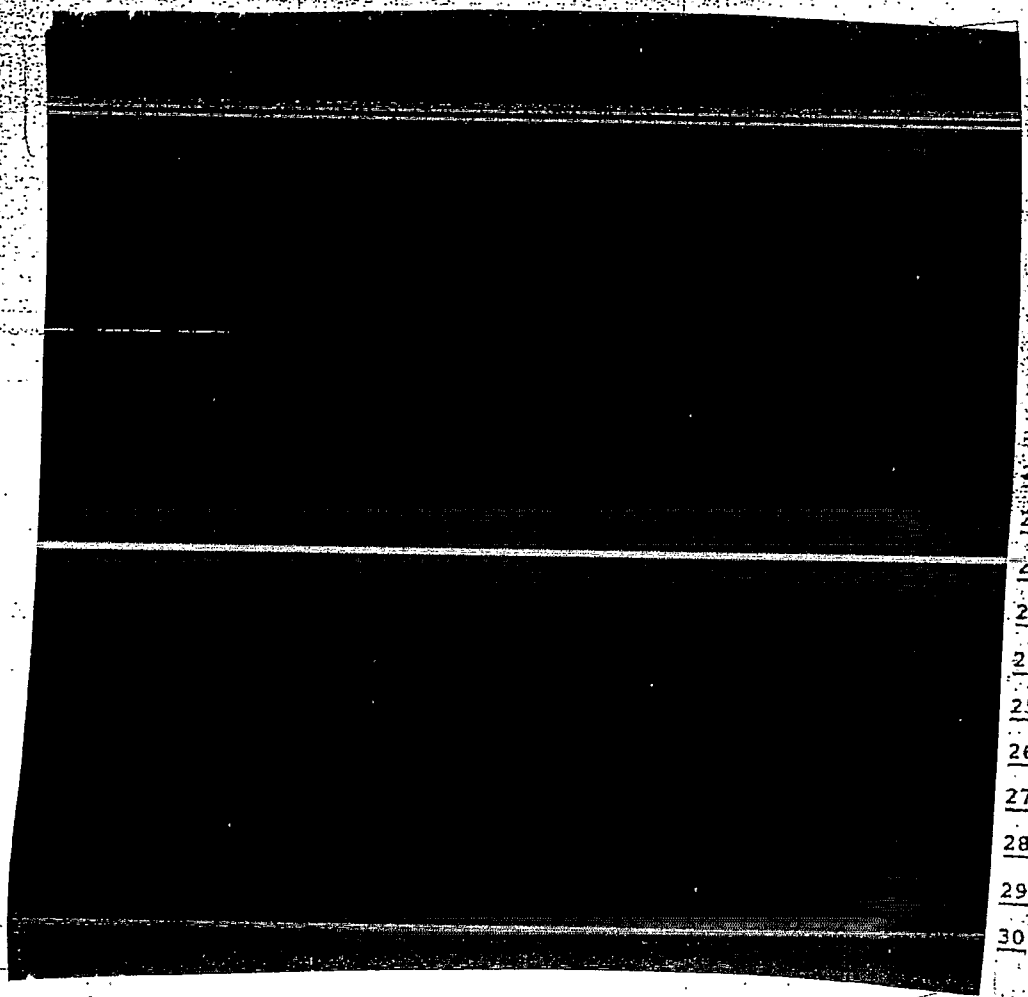
a. Runs were made to determine if the value scheme needed to be adjusted in order to accommodate the changing attack rationale implicit in the scenarios to be examined. It was determined that the original scheme (see Figure 1) based on a direct translation from the JSTPS manual produced reasonable results over the range of scenarios.

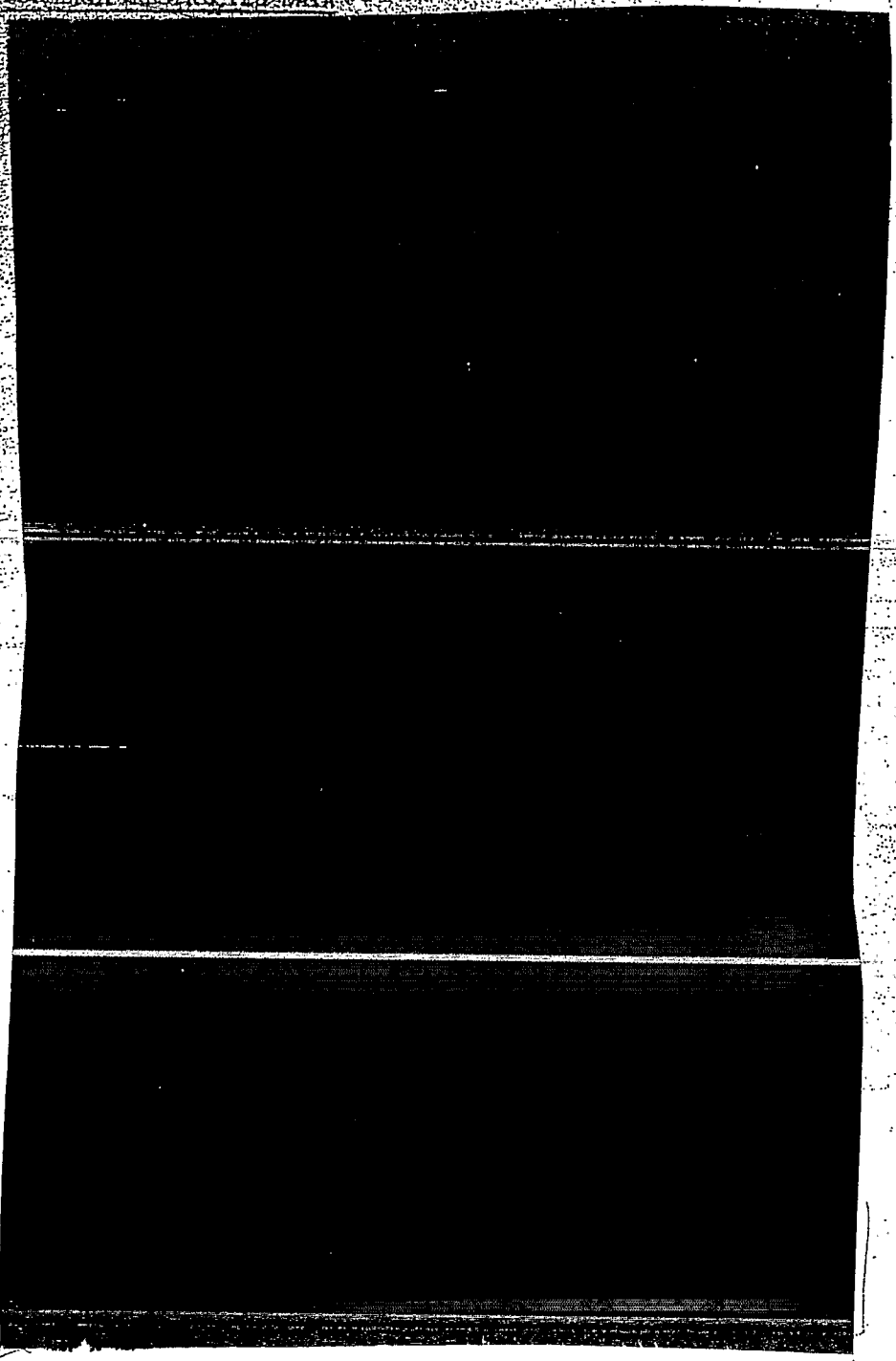
b. The results of the first series of runs are shown in Figures 2 and 3.



The predicted number of military targets damaged agrees within 6.1 percent.

The results of the second series of runs against the [redacted] target base are shown in Figures 4 and 5. In this case, all of the collateral effects of damage are credited to SIOP. As is seen, the weapons allocation agrees with the SIOP within 7.2 percent. The predicted number of military targets damaged falls below the SIOP predictions by 14.6 percent. This difference is principally due to collateral damage and agrees with an estimate of about 15 percent based on pre-game analysis of the SIOP damage summary tables.





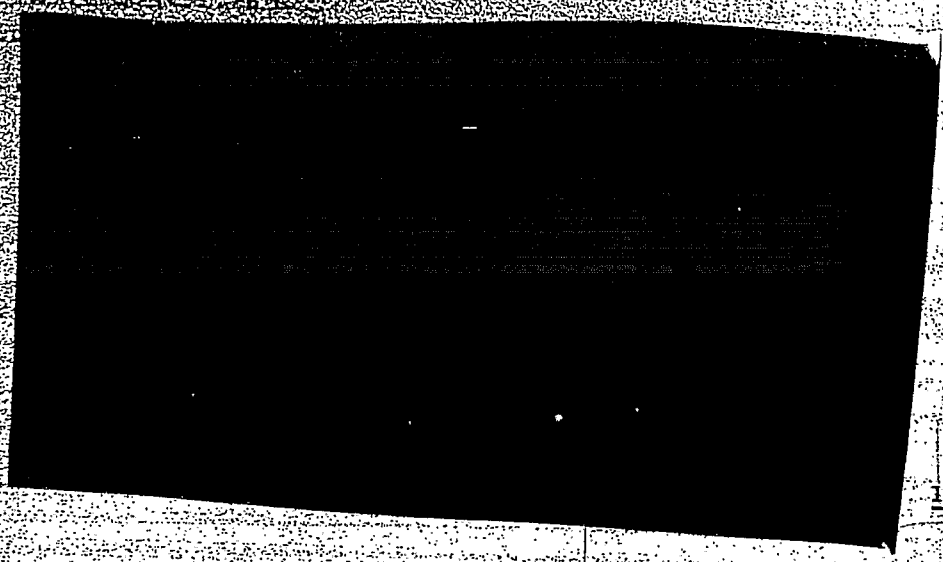


Figure 1

WEAPON ALLOCATIONS

FIRST SERIES RUN

(AGAINST USER)

Figure 2

AIRCRAFT TARGETS DAMAGED

FIRST SERIES RUN

NUMBER DGZs IN BASE	SIOP VALIMAR	ADV READINESS	SIOP VALIMAR	ADV READINESS	TOTAL	DIFF	% DIFF
[redacted]							

Figure 3

WEAPON ALLOCATIONS

SECOND SERIES RUN

(AGAINST USSR)

Figure 4

EXPECTED TARGETS DAMAGED

SECOND SERIES RUN

NUMBER TGTs IN BASE	SIOP VALTMAR	ADV READINESS	SIOP VALTMAR	ADV READINESS	SIOP VALTMAR
[redacted]					
TOTAL					
DIFF					
% DIFF					

Figure 5

GLOSSARY

Terms used in this analysis are defined for the purpose of this analysis as follows:

Active Defense (U) - The employment of defensive forces against the enemy's offensive weapons after they are launched to prevent them from reaching their targets (as opposed to passive defense such as hardening the target, or to counter-force).

A-Hour (Alert Hour) (S) - [redacted] This time will be disseminated by the Joint Chiefs of Staff.

Aim Point (U) - See DGZ

ALCC (Airborne Launch Control Center) (U) - An EC-135 aircraft within the SAC Post Attack Command and Control System which provides a back-up means for selective enabling and launching of one or more MINUTEMAN missiles.

ANMCC (U) - The Alternate National Military Command Center, located underground near Fort Ritchie, Md.

CEP (Circular Error Probable) (U) - A measure of weapon system accuracy. The radius of a circle whose center is at the DGZ within which 50 percent of the weapon detonations can be expected to occur.

CINC (Commander in Chief) (U) - The commander of a unified or specified command.

Comprehensive [redacted] (S) - The target system which [redacted]

Counterforce (U) - The employment of strategic air and missile forces in an effort to destroy, or render impotent, selected military capabilities of an enemy force under any of the circumstances by which hostilities may be initiated.

Countervalue (U) - The employment of strategic air and missile forces against the urban/industrial base of an enemy.

Day-to-Day Alert (U) - The posture maintained by SIOP forces under normal peacetime conditions.

DEFCON (Defense Readiness Conditions) (U) - A uniform system of progressive alert procedures for use between the Joint Chiefs of Staff and CINCS, and for use by the Services. DEFCONs are graduated to match situations of varying military severity.

DGZ (Desired Ground Zero) (U) - A point on the earth's surface below, at, or above the center of a desired nuclear burst.

Diplomatic Sufficiency (U) - The visible capability of US strategic forces to meet the Soviet threat; specifically the perception of such capability by those outside the US government, both domestically and internationally.

EMT (Equivalent megatons, also abbreviated as MTE) (U) - A measure of the relative effectiveness of different yield weapons, against city type targets. This assumes that one EMT delivered by one weapon system with a particular yield will cause the same damage as one EMT from a different system and yield. EMT is calculated by taking the square root of weapon yields over one megaton and the two-thirds power of yields below one megaton. (Example: A 100 megaton weapon delivers 10 EMT; a .5 megaton weapon delivers .63 EMT)

ERCS (Emergency Rocket Communication System) (TS) -

[redacted]

Escalation (U) - An increase in scope or violence of a conflict, deliberate or unpremeditated.

FGL (Force Generation Level) (S) -

[redacted]

Flexible Response (S) - Insofar as US strategic offensive forces are concerned,

[redacted]

Frequency (U) - Expressed in Hertz (cycles/second).

ELF - Extremely Low Frequency	- 10 KHz
VLF - Very Low Frequency	10 - 30 KHz
LF - Low Frequency	30 - 300 KHz
MF - Medium Frequency	300 - 3000 KHz
HF - High Frequency	3 - 30 MHz
VHF - Very High Frequency	30 - 300 MHz
UHF - Ultra High Frequency	300 - 3000 MHz
SHF - Super High Frequency	3 - 30 GHz
EHF - Extremely High Frequency	30 - GHz

Generated Alert (Maximum Posture) (S) - A state of readiness whereby

[redacted]

GTP (Greater than Expected Threat) (U) - A threat in excess of that projected by the intelligence community.

Hard Target (U) - A target that can avoid disabling damage when exposed to overpressures on the order of 600 per square inch.

LCC (Launch Control Center) (U) - A hardened underground structure which maintains constant surveillance and control of 10 to 50 unmanned MINUTEMAN missile launch facilities, and generates test, calibrate, inhibit, retargeting, enable, or execute commands as directed.

NCA (National Command Authorities) (S) - The President, the Secretary of Defense, the Joint Chiefs of Staff, or the duly deputized alternates or successors.

NEACP (National Emergency Airborne Command Post) (S)

[redacted]

NMCC (U) - The National Military Command Center located in the Pentagon.

NSDM-16 Criteria for Strategic Sufficiency (TS) - For planning purposes [redacted] were defined in NSDM-16 as follows:

[redacted]

[redacted]

NSTDB (National Strategic Target Data Base) (S) -

[redacted]

National Strategic Target List (NSTL) (S) -

[redacted]

OMT (Other Military Targets) (S) - This definition applies only to Part V and the analysis in Annex C.

[redacted]

PACCS (Post Attack Command and Control System) (C) -

[redacted]

PLS (Pre-Launch Survivability) (U) - The probability that a delivery vehicle will survive an enemy attack under an established condition of warning.

Presidential Authority (U) - The President or his successor.

Relative Advantage (U) - See Termination of Hostilities.

Residual Military Resources (U) - Resources remaining undamaged after a nuclear attack, including OMT, IR/MREM sites in the case of the Soviets, and excluding residual strategic nuclear delivery vehicles.

Second Strike (U) - The first counterblow of a war (Generally associated with nuclear operations).

SIOP Committed Forces (U) - United States nuclear delivery forces designated by the appropriate unified and specified commands for use in SIOP operations.

SIOP Coordinated Forces (C) -

[redacted]

SLBM Detection System (474N)

[redacted]

Soviet Bloc (U) - The Soviet Union and East European communist countries.

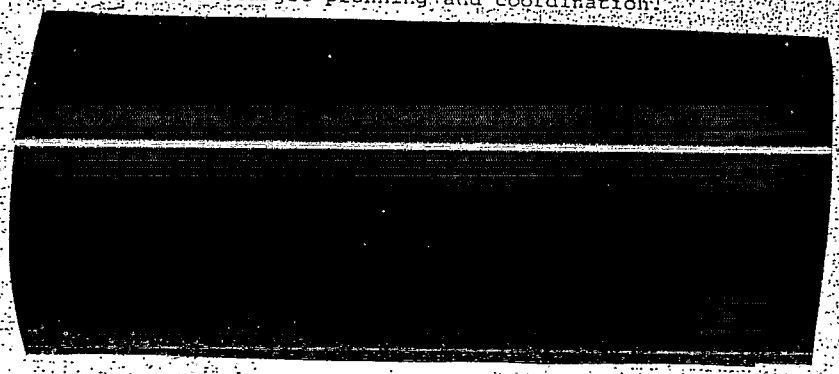
Specified Command (U) - A command which has a broad continuing mission and which is established and so designated by the President through the Secretary of Defense with the advice and assistance of the Joint Chiefs of Staff. It normally is composed of forces from but one Service.

SSpk (Single-Short Kill Probability) (U) - The probability that a single arriving warhead will cause disabling damage to a target.

TACAMO (U) - A communication relay aircraft that can transmit the SIOP execution message to deployed SSBNs on VLF.

TACSATCOM (U) - The Tactical Satellite Communications System designed to satisfy the requirements of mobile users. It is a UHF system consisting of two satellites in synchronous equatorial orbit. One over the Atlantic and one over the Pacific.

TDI - (Target Data Inventory) (U) - A document which provides standardized target data in support of the requirements of the Joint Chiefs of Staff and unified and specified commands in the area of target planning and coordination.



Throw-weight (U) - Maximum missile payload capabilities (warheads and penetration systems including spacers and dispensing mechanisms) for a specified delivery range.

Unified Command (U) - A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more Services, and which is established and so designated by the President, through the

Secretary of Defense with the advice and assistance of the Joint Chiefs of Staff, or, when so authorized by the Joint Chiefs of Staff, by a commander of an existing unified command established by the President.

VN (Vulnerability Number) (U) - A three part number that relates target vulnerability to overpressure.

Warfighting (Also called Warwaging or War-engagement) Capability (S) - The capability of US strategic forces, under any conditions of war initiation, to: (1)

[redacted]

Warhead (U) - That part of a missile, projectile, torpedo, rocket, or other munition which contains either the nuclear or thermonuclear system, high-explosive system, chemical agents or inert materials intended to inflict damage.

WSR (Weapon System Reliability) (U) - The probability of a delivery vehicle delivering a weapon which detonates as planned, excluding the effects of enemy action.

WWMCCS (Worldwide Military Command and Control System) (U) - An integrated command and control system that provides the means for operational direction and technical/administrative support involved in the function of command and control of US military forces. WWMCCS includes as subsystems the National Military Command System (NMCS), as well as the

command and control systems of the unified and specified commands, the headquarters of the Military Departments/Services (including their alternates), and the headquarters of the Service component commands (including their alternates). Included also are the command and control support systems of the Department of Defense Agencies.

1
2
3
4
5
6