TOP SECRET

HISTORY OF THE

JOINT STRATEGIC TARGET PLANNING STAFF

SIOP-4 H/I, July 1970 - June 1971

(Unclassified Title)

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6 January 1972

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FOREWORD

This is the ninth history of the Joint Strategic Target Planning Staff (JSTPS) since its establishment on 16 August 1960. It covers the period of July 1970 through June 1971, for Revisions H and I of SIOP-4. It has been prepared in accordance with Joint Administrative Instruction 210-1, 15 March 1967.

The classification of Top Secret/Restricted Data/Not Releasable to Foreign Nationals/Group 1 is assigned to conform with the classification of the source documents.

This history was prepared for the JSTPS by Miss M. E. Hayes, of the Strategic Air Command Historical Staff.

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Vice Admiral, USN
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TABLE OF CONTENTS

Introduction 1
SIOP Preparation 1
  Review of the NSTAP 1
  Planning Manual Changes 5
DGZs and Available Weapons 9
Damage Expectancy 15
  Vulnerability of Missile Launch Facilities 15
  Constraints 18
Consequences of Execution 19
Coordinated Reconnaissance Plan 21
JSTPS and SAL Talks 25
War Gaming 26
Scientific Advisory Group Meetings 28
Organization and Personnel. 28
Summary 33
Glossary 35
Notes 37
Distribution 44

ILLUSTRATIONS

Tables

1 Force Generation Levels, SACEUR, Revisions H, I. 9
2 SIOP Preparation, DGZs, Available Vehicles and Weapons, Revisions G, H, I. 11
3 Per Cent Damage Expectancy, SIOP-4, Revision G to I . . . 16
4 Committed Reconnaissance Forces, Revisions G, H, I. . . 24
5 JSTPS Personnel Changes, FY-71. 32

Charts

1 Joint Strategic Target Planning Staff Organization 30

Maps

1 Shielding Factors, SIOP-4, Revisions G, H, I. 20

APPENDICES

A Pre-Launch Survivability, Revisions G, H, I
B Weapon System Reliability, Revisions G, H, I
C Missile Weapon System Accuracy, Circular Error Probable, Revisions G, H, I
D SIOP-4H Delivery Vehicles and Weapons
E SIOP-4I Delivery Vehicles and Weapons
F SIOP-4H Damage Expectancies, DGZs by Tasks, Megatonnage Programmed, Constraints Monitor Points
G SIOP-4I Damage Expectancies, DGZs by Tasks, Megatonnage Programmed, Constraints Monitor Points
H Roster of Key Personnel, JSTPS, 30 June 1971
I Computer Information
J SACEUR Plans

Introduction

(TS) (Gp 1) The Joint Strategic Target Planning Staff (JSTPS) was formed in 1960 to select targets for attack in event of nuclear war and to prepare a plan for use of committed forces of the unified and specified commands on those targets. These requirements involved preparation of the National Strategic Target List (NSTL) and the Single Integrated Operational Plan (SIOP). Guidance for preparation of these documents came from the Joint Chiefs of Staff (JCS) as the National Strategic Targeting and Attack Policy (NSTAP).[1]

(TS) (Gp 1) The JSTPS was also responsible for preparation of the Coordinated Reconnaissance Plan (CRP) for use of committed reconnaissance forces to determine strike results in the trans- and post-SIOP periods. This required compilation of the National Strategic Reconnaissance List (NSRL) which identified locations that would require coverage to determine damage assessment and a Coverage Summary integrating command reconnaissance plans.

(U) This history covers preparation of SIOP-4 and CRP-4, Revisions H and I, which were in effect during Fiscal Year 1971 (FY-71).

SIOP Preparation

Review of the NSTAP

(TS) (Gp 1) In November 1970 the JCS asked for a review of the

NSTAP "Guidance for the Preparation of the SIOP," that had been written in 1964 and revised in 1969. This was considered necessary since the use of nuclear forces in strategic attacks was under scrutiny which was expected to continue, and to increase in intensity.[2]

(TS) (Gp 1) Two changes were recommended by JSTPS. One concerned Appendix A which established the aims of the SIOP, and where the name of a United States Navy (USN) missile "Polaris" was used rather than the more descriptive term "submarine launched ballistic missile (SLBM)." Since a second USN missile, "Poseidon," had been added to the weapon inventory for use in SIOP planning, it was suggested that the word Polaris be dropped, and the term SLBM, or FBM (fleet ballistic missile) be substituted.

(TS) (Gp 1) The other suggested change called for deletion of Appendix B which defined nuclear damage criteria. This information was out of date, having been superseded by new definitions prepared by the Defense Intelligence Agency (DIA) in 1967,[3] approved by the JCS, and in use since that time.[4]

(TS) (Gp 1) Four other changes were considered by JSTPS, but after staff discussions were not submitted to JCS. One was for inclusion of "deterrence" as a major objective of the SIOP by revision of the following paragraph:[5]

[

to:[6]

[

However, since the SIOP was a capabilities rather than an objectives plan, inclusion of deterrence as an objective was considered inappropriate in this paragraph.[7]

[

(TS) (Gp 1) The third change recommended an adjustment in one of the three SIOP tasks. These tasks were:[10]

Planning Manual Changes

(TS) (Gp 1) A planning manual was prepared for each revision of the SIOP and contained procedures and pertinent planning factors. It was prepared by the JSTPS in conjunction with representatives of the unified and specified commands who participated in preparation of the SIOP. The major changes for both Revisions H and I were in the section on computing the probability of arrival of nuclear weapons on target, as part of the chapter on SIOP planning factors.

[ ]

~~(TS)~~ (Gp 1) Pre-launch survivability (PLS), weapon system reliability (WSR), and weapon system accuracy mathematical factors were submitted by the commands to the JCS who adjusted and/or approved them for use by JSTPS. These factors were published in the planning manual.

~~(TS)~~ (Gp 1) PLS was the probability that a delivery vehicle would survive an enemy attack under established conditions of warning. The only major change made was in the estimate of the survivability of the

surface-to-surface guided missile, Pershing, located in the European theater.

~~(TS)~~ (Gp 1) WSR, the probability that an aircraft could deliver a weapon, and a missile a warhead, with detonation as planned, was based on the reliability of the delivery vehicle and the weapon/warhead system, excluding effects of enemy action. The major changes were increases for various types of missiles: the Minuteman B and F, the Pershing, and the AGM-28 (Hound Dog). A compilation of the data from the planning manuals may be found in Appendix B.[22]

~~(TS)~~ (Gp 1) Accuracy was measured as the circular error probable (CEP), which was the radius of a circle in nautical miles whose center was the desired ground zero (DGZ), and within which 50 percent of the weapon detonations could be expected to occur. The CEPs for three land-bases missiles improved: The Titan II, Minuteman B and F, as may be seen in the data included in Appendix C.[23]

~~(TS)~~ (Gp 1) The changes for Revision H also included, in Chapter 4, "Target Development," the addition [ ]

[ ]

DGZs and Available Weapons

~~(TS)~~ (Gp 1) Preparation of the NSTL began with inspection of DIA's Target Data Inventory (TDI) which provided standardized target data in support of the requirements of the JCS and the unified and specified commands. From the TDI the National Strategic Target Data Base (NSTDB) and the National Strategic DGZ List (NSDL) were developed. The NSDL formed the basis for development of pre-planned

damage expectancy and application of available forces, leading to the end product, the NSTL, which was published as Annex C to the SIOP.

(TS) (Gp 1) A change to the TDI proposed by JSTPS in FY-70 became a reality in FY-71.[29] This was identifying launch control facilities for missiles by their own encyclopedia numbers instead of using the letter "C" or "E" after the target category number, and was required for weapons application and damage assessment. The original request to DIA for these had been refused since all commands did not approve such a change. However, JSTPS considered this item of sufficient importance to pursue it further, and provided additional rationale which convinced all concerned commands that the change was necessary. After the concurrence of all commands was received, launch control facilities were given their own identity numbers before the end of FY-71.[31]

(S) (Gp 1) In the spring of 1971 personnel from JSTPS visited the Aeronautical Chart and Information Center (ACIC), St. Louis, Missouri, to discuss the requirement for [ ][32] These were required for preparation of missile target data for the newly introduced multiple reentry vehicles of the Air Force's Minuteman G and the Navy's Poseidon missiles. Involved were approximately 15,000 entries in the NSTDB, with an estimated net growth of about 170 entries and as many as 130 changes per month.[33] As this would necessarily be a

long term project, JSTPS agreed to furnish ACIC with priorities for specific sets of coordinates. This would insure that JSTPS would receive

* (U) The GSP and TSP of SACEUR are defined in Appendix J.

[ ]

Damage Expectancy

~~(TS)~~ (Gp 1) The results of application of SIOP weapons to targets were expressed in percentage as damage expectancy, and were developed as a product of the probability of arrival of the weapon and the probability of damage to the target.[39] As may be seen in Table 3 on the following page, there were increases in several target categories for damage, primarily as the result of improvement in missile reliability and accuracy.

Vulnerability of Missile Launch Facilities

~~(TS)~~ (Gp 1) The DIA supplied vulnerability numbers, i.e., index numbers indicating hardness, for SIOP targets. These were used when determining the degree of damage that could be accomplished by the various weapons [

[ ] This latter category had been introduced early in 1970,[41] and study for its application on missile launch facilities continued into FY-71.

~~(TS)~~ (Gp 1) The JSTPS' Scientific Advisory Group (SAG) was asked to consider this subject on the basis of two-pronged attacks on missile sites, and to identify missile and silo features that were susceptible to nuclear effects for further study.

The DIA representative briefed the SAG on their studies which had included surveys of missile structures, techniques of missile installation, silo structures, and command control areas. They felt

JSTPS and SAL Talks

(TS) (Gp 1) The JSTPS was asked by JCS to assist in preparation of data for use at the Strategic Arms Limitation Talks (SALT). In one request the JCS asked that a representative visit the joint staff to discuss studies on assessment of strategic force levels and to participate in analysis of strike capability under the SAL proposals being considered in the third phase of the talks.*[57] Vice Admiral F. H. Michaelis, Deputy Director, JSTPS, then met with JCS representatives from the Plans and Policy Directorate (J-5) and the Studies, Analysis, and Gaming Agency (SAGA) in early November. It was decided that SAGA would carry out war gaming of the proposed force, and that JSTPS personnel would be available as consultants.[58] Another request was for data on bomber penetration

* (U) The Strategic Arms Limitation Talks (SALT) were between the Soviet Union and the United States. Meetings have been held in Helsinki, Finland, and Vienna, Austria: 17 November - 22 December 1969, Helsinki; 16 Apr - 4 August 1970 - Vienna; 2 November - 18 December 1970, Helsinki; the fourth session started 15 March 1971 and had not ended by the closing date of this history, i.e, 30 June 1971.

(TS-NOFORN) (Gp 1) The first of these two items was cited by General Bruce K. Holloway, Director, JSTPS, when commenting on JCS requests to advise on force structure. Reference was also made to another message from JCS asking for comments on Polaris assignments to the Pacific area.[60] He stated that "questions of this type should be referred to the services and the CINCS (commanders-in-chief) who provide these forces. My task is to build an optimum war plan using nuclear forces committed by the individual CINCs." General Holloway said he felt that the effectiveness of the JSTPS over the years had been possible because it had operated within its charter, and had not become involved in force discussions.[61]

War Gaming

(S) (Gp 1) A major war gaming analysis was made of the SIOP to examine the ability of Revision I to achieve JCS objectives and the circumstances to which the plan is most sensitive.

All scenarios were played through a large-scale, detailed computer war game model which simulated the execution of each sortie and weapon contained in the

opposing plans. The simulation results and analysis were presented in a comprehensive briefing to the JCS, CINCLANT, and CINCPAC beginning in June 1971.

[ ]

(U) JCS asked JSTPS to furnish information on war gaming and related computer use. The data was needed by the General Accounting Office for use by the House of Representatives Committee on Appropriations.*[62]

(U) JSTPS replied that SIOP war gaming was done by their SIOP Simulation and Analysis Branch in conjunction with the Strategic Air Command's Deputy Chief of Staff, Operations, using International Business Machine 7090, 1460, and 7094 computers. The first of

* (U) War gaming was defined in the JCS message as "a simulation, through use of automatic data processing equipment, that may or may not include interruption for human decision-making, or a military operation involving two or more opposing forces engaged in conflict which is conducted using rules, data, and procedures designed to depict an actual or assumed real life battle situation without paying real world penalties."

these was used on an average of 1450 hours; the second, an average of 850 hours, while the third was used occasionally, in the development, testing and production of a typical war game.[63]

Scientific Advisory Group Meetings

~~(TS)~~ (Gp 1) The Scientific Advisory Group (SAG), which had been formed in 1968, held three meetings in FY-71. Subjects considered at those meetings were as follows:[64]

[ ]

Organization and Personnel

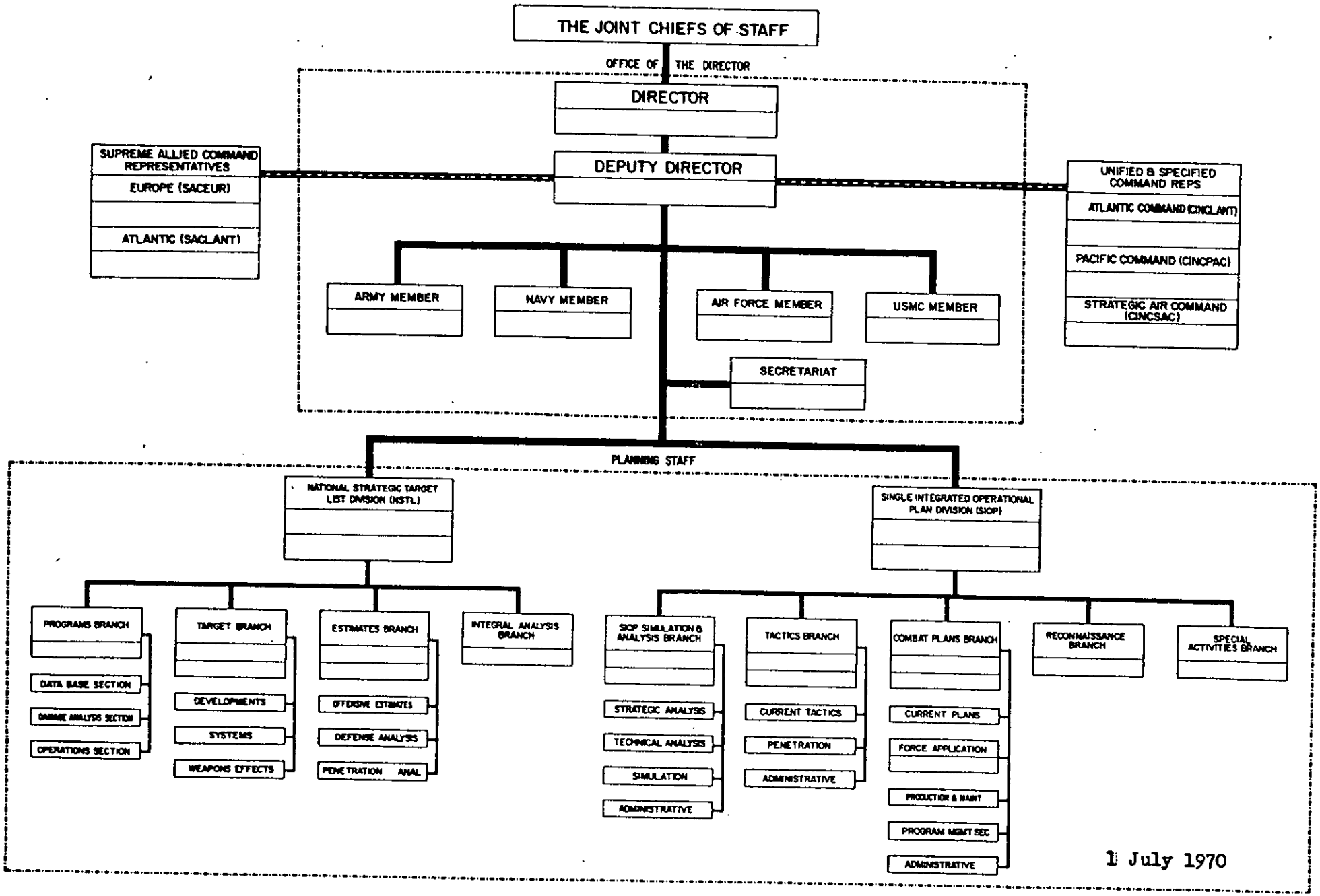
(U) The basic organizational structure of the JSTPS consisted of the Director, Deputy Director, four Senior Service members, a Secretariat, and two divisions (National Strategic Target List Division and Single Integrated Operational Plan Division). In addition, there were liaison representatives from CINCPAC, CINCLANT, CINCSAC, SACLANT, and SACEUR, including officers from four European North Atlantic Treaty Organization (NATO) countries. An organization chart

of the JSTPS may be found on the following page.

~~(C)~~ (Gp 3) Organizational changes for FY-71 consisted of the forming of the Integral Analysis Branch and the Computer Programs Branch under the NSTL Division. The first of these had the function of developing, maintaining, and publishing analytical studies associated with SIOP Preplanned Damage Expectancy and SIOP force penetration. The second was to develop and maintain computer programs and data for compilation of the NSTL, NSDL, NSRL, and SIOP Analysis Summary tables and to perform other computer work as required. This Branch had three sections: Data Base, Damage Analysis and Operations.[65]

~~(C)~~ (Gp 3) The JCS manpower survey team that worked with the JSTPS on the above reorganization also recommended deletion of the senior service member positions, with two related administrative spaces. This was to be offset by establishment of a position for a chief of staff, with an executive officer and secretary. JSTPS did not concur with this as it considered essential the retention of the service members as service oriented advisors for JSTPS and service connected matters. It was not felt that the chief of staff position was required as it would be but another layer of command between the two division chiefs and the director/deputy director. The JCS agreed with JSTPS

JOINT STRATEGIC TARGET PLANNING STAFF



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and did not approve the change.[66]

(C) (Gp 3) Manpower authorizations increased by 32, from 292 in FY-70 to 324 in FY-71. Allocation of personnel among the various services changed as may be seen in the table at the top of the following page.[67]

(U) The reduction from 12 to 6 "no service specified" positions will be seen in the table. Those authorizations had been established by JCS guidance in 1961 in the NSTL Division to provide for placing the best qualified individuals in positions at division, branch and section supervisory levels. At the time of this survey it was considered that the section supervisors should be eliminated from this category as it would ease Service programming problems and insure availability of qualified programmed replacements on a timely basis.[68]

(U) The Manpower Survey Team also reviewed the "dual status" designation which applied to SAC personnel who performed additional duty with the JSTPS, and recommended that the next manpower survey of JSTPS be augmented by appropriate simultaneous Air Force addressal of SAC manning in support of JSTPS.[69]

TOP SECRET

(U) TABLE 5[67]

JSTPS PERSONNEL CHANGES, FY-71

Service	Rev G	Revs H/I	Change
Air Force			
Single Status	70	79	+ 9
Dual Status	134	157	+23
Army	19	22	+ 3
Marine	3	4	+ 1
Navy	54	56	+ 2
No Service Specified	12	6	- 6
Total	292	324	+32
Officers	194	219	+25
Enlisted	73	80	+ 7
Civilians	25	25	0

~~(TS)~~ (Gp 1) When the JCS reviewed the manpower survey they recognized the expanding manpower requirements to support targeting activities associated with the Minuteman G and the Poseidon missiles that had been introduced in SIOP-4, Revision H and I, respectively. Thus, they stated that this could "result in a continuing need, not fully defined at present, for additional personnel in future years."[70]

TOP SECRET

(U) General Bruce K. Holloway remained as Director, JSTPS, and Vice Admiral F. H. Michaelis, as Deputy Director. However, there were four key personnel changes. Capt. E. R. Barrett, US Navy Senior Service Member, was replaced by Capt. W. M. Adams, Jr., in September 1970. Three of the five commands changed liaison officers. CINCPAC's Capt. C. K. Ruiz, USN, was replaced by Capt. L. B. Lampman; CINCSAC's Maj Gen. S. F. Martin, USAF left and Maj. Gen. P. N. Bacalis, USAF, replaced him; and SACEUR's Brig. Gen. J. Myers, USAF, was replaced by Brig. Gen. D. L. Carter. A roster of key personnel is included as Appendix H.

Summary

[ ]

GLOSSARY

AAA	Anti-Aircraft Artillery
ABM	Anti-Ballistic Missile
ACIC	Aeronautical Chart and Information Center
CEP	Circular Error Probable
CINC	Commander-in-Chief
CINCEUR	Commander-in-Chief, Europe
CINCLANT	Commander-in-Chief, Atlantic
CINCPAC	Commander-in-Chief, Pacific
CINCSAC	Commander-in-Chief, Strategic Air Command
CRP	Coordinated Reconnaissance Plan
DGZ	Desired Ground Zero
DIA	Defense Intelligence Agency
FBM	Fleet Ballistic Missile
FY	Fiscal Year
GSP	General Strike Plan
ICBM	Intercontinental Ballistic Missile
IRBM	Intermediate Range Ballistic Missile
JCS	Joint Chiefs of Staff
JSTPS	Joint Strategic Target Planning Staff
MIRV	Multiple Independently Targetable Reentry Vehicle
NSDL	National Strategic DGZ List
NSRL	National Strategic Reconnaissance List
NSTAP	National Strategic Targeting and Attack Policy
NSTDB	National Strategic Target Data Base
NSTL	National Strategic Target List
PLS	Pre-Launch Survivability
PSP	Priority Strike Program
RAP	Route Assessment Program
RISOP	Red Integrated Strategic Offensive Plan

SAC	Strategic Air Command
SACEUR	Supreme Allied Commander Europe
SAG	Scientific Advisory Group
SAGA	Studies, Analysis, and Gaming Agency
SIOP	Single Integrated Operational Plan
SLBM	Submarine Launched Ballistic Missile
SSBN	Submarine Ballistic Missile Nuclear Powered
TDI	Target Data Inventory
TSP	Tactical Strike Program
USCINCEUR	United States Commander in Chief, Europe
USN	United States Navy
WSR	Weapon System Reliability

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PRE-LAUNCH SURVIVABILITY
Revisions G, H, I

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THE JOINT CHIEFS OF STAFF
JOINT STRATEGIC TARGET PLANNING STAFF
OFFUTT AIR FORCE BASE
NEBRASKA
68113

REVISION 2

6 JUL 1970

JP

MEMORANDUM FOR: JS

SUBJECT: Information for the SAC Historian to use in preparation of the SIOP-4 History (U)

REFERENCE: JS Memo, 20 Apr 70, Subject as above

(TS) In accordance with paragraph one, referenced message, the following information is submitted.

[ ]

JOHN E. FORD
CAPTAIN, USN
SIOP-ISTPS

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APPENDIX "E"

THE JOINT CHIEFS OF STAFF
JOINT STRATEGIC TARGET PLANNING STAFF
OFFUTT AIR FORCE BASE
NEBRASKA
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REVISION I

JP

16 JAN 1971

MEMORANDUM FOR: JS

SUBJECT: Information for the SAC Historian to Use in Preparation of the SIOP-4 History (U)

REFERENCE: JS Memo, 5 Jan 71, subject as above

~~(TS)~~ (U) In accordance with paragraph two, referenced memo, the following information is submitted.

[redacted]

RICHARD H. MILLS
Captain, USN
Dep Chief, SIOP Div

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APPENDIX "F"

THE JOINT CHIEFS OF STAFF
JOINT STRATEGIC TARGET PLANNING STAFF
OFFUTT AIR FORCE BASE
NEBRASKA
68113

REVISION H

SEP 9 1970

JL

MEMORANDUM FOR: JS

SUBJECT: Information for the SAC Historian to Use in Preparation of the SIOP-4 History

REFERENCE: JS Memo 0541 dtd 20 Apr 1970

1. Attachments 1 and 2 are forwarded as requested by reference for use by the SAC Historian.

2. When attachments 1 and 2 are withdrawn this correspondence may be downgraded to Unclassified.

R. G. BAGBY
Captain, USN
Deputy Chief
NSTL Division

2 Atchs
1. Cy 1 TS DOC, Subj: SIOP-4H Historical Data for SAC Historian - Damage Expectancies (1 Jul 70) (U)
2. Cy 1 TS DOC, Subj: SIOP-4H History - Constraints Monitor Points AO-2C-AR (U)

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SIOP REV H

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APPENDIX "G"

THE JOINT CHIEFS OF STAFF
JOINT STRATEGIC TARGET PLANNING STAFF
OFFUTT AIR FORCE BASE
NEBRASKA
68113

REVISION I

12 April 1971

JLA

MEMORANDUM FOR: JS

SUBJECT: Information for the SAC Historian to Use in Preparation of the SIOP-4 History (U)

Reference: JS Memo 238, same subject, dated 2 Apr 71

1. (U) Information requested in reference is forwarded as attachments 1 and 2.

2. (C) The format of attachment 1 is the same that was used for constraints input to the Revision G and Revision H histories. It has been established through informal coordination with JSM-A, the OPR for Revision I history, that the format of attachment 1 is acceptable, and that the format specified in referenced memo is not required.

3. (U) This memorandum may be downgraded to CONFIDENTIAL upon removal of attachments 1 and 2.

R. G. BAGBY
CAPTAIN, USN
DEPUTY CHIEF
NSTL DIVISION

2 Atch
1. Cy 1 of TS Document, Subj: SIOP Rev I Constraints Info (U), undated
2. Cy 1 of TS Document, Subj: SIOP-4I Historical Data for SAC Historian Damage Expectancies (U), dtd 5 Apr 71

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SIOP REV I

CONSTRAINTS INFORMATION (U)

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ATTACHMENT 1

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SIOP-4I HISTORICAL DATA FOR SAC HISTORIAN
DAMAGE EXPECTANCIES (1 JAN 1971) (U)

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ROSTER OF KEY PERSONNEL, JSTPS
30 June 1971

Organization	Name	Service	Dates From	Dates To
Director	General B. K. Holloway	USAF	1 Aug 68	
Deputy Director	Vice Admiral F. H. Michaelis	USN	1 Sep 69	
NSTL Division	Maj. Gen. William R. MacDonald	USAF	30 Jul 69	
SIOP Division	Brig. Gen. R. E. Huyser	USAF	1 Feb 70	
Senior Service Members				
US Army	Col. C. R. Supplee	USA	29 Jun 69	
US Navy	Capt. E. R. Barrett	USN	12 Jun 69	27 Aug 70
	Capt. W. M. Adams, Jr.	USN	11 Sep 70	
US Air Force	Col. S. G. Desens	USAF	1 Feb 70	
US Marine Corps	Col. W. Biehl, Jr.	USMC	2 Sep 69	
Commands				
CINCLANT	Capt. R. E. Crispin	USN	18 Aug 69	
CINCPAC	Capt. C. K. Ruiz	USN	5 Apr 68	5 Jun 70
	Capt. L. B. Lampman	USN	21 May 70	
CINCSAC	Maj. Gen. S. F. Martin	USAF	26 Jul 68	9 Apr 70
	Maj. Gen. P. N. Bacalis	USAF	9 Apr 70	

Organization	Name	Service	Dates From	Dates To
SACEUR	Brig. Gen. J. Myers	USAF	1 Aug 69	30 Sep 70
	Brig. Gen. D. L. Carter	USAF	15 Sep 70	
SACLANT	Capt. R. E. Crispin	USN	18 Aug 69	
NATO Representatives				
Germany	Col. F. Schroter	Air Force	10 Jan 69	
Italy	Col. Sergio Mazzerelli	Air Force	2 Dec 69	
United Kingdom	Gp. Capt. D. G. L. Heywood	Air Force	8 May 67	Unknown
	Gp. Capt. R. Hampton	Air Force	7 Jan 71	
Belgium	Maj. L. E. Coupez	Air Force	15 Sep 66	Unknown
	Lt. Col. L. V. Peeters	Air Force	3 Apr 70	

SECRET

COMPUTER INFORMATION FOR THE
SAC HISTORIAN IN PREPARATION OF THE SIOP-4 HISTORY (U)

1. (C) Computers continued to play a very important role in the development and analysis of the Single Integrated Operational Plan (SIOP), Revisions H and I. The introduction of Multiple Independently Targeted Reentry Vehicles (MIRVs) in the inventory has resulted in an increase in the number of weapons as well as an increase in the number of DGZs required to efficiently utilize these new weapons. New equipment (hardware) was installed as well as new computer programs (software) were developed to provide responsive support in the development of the SIOP.

2. (C) (U) In the area of hardware:

a. (C) The IBM 1410 computer was replaced with a newer, faster, third generation system, the IBM 360/50. As a result, more complex mathematical programs were executed on the system thereby increasing the sophistication and efficiency of the plan. The installation of the new system allowed for an increase in the number of revisions that could be maintained on-line at any one time from two to four. In addition, the greater amount of storage available enabled JLP to implement the previously initiated restructuring of the Weapon/DGZ Files to include the additional fields necessary to support MIRV applications.

b. (U) At the start of Revision I, the IBM 7094 computer was removed from the premises and all processing relegated to the fully operational IBM 360/85. As a consequence, the bulk of the damage analysis processing was transferred to the newer, faster computer system. Increased sophistication in the existing damage assessment computer programs as well as the adaptation of MIRV supporting programs for use in the preplanning, application, and analysis phases of the development of the SIOP were made possible.

OPR: JLP
Date: 17 Aug 71

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3. (S) (U) In the area of software:

a. (U) All IBM 1410 and 7094 programs had to be rewritten to efficiently utilize the new systems. At the end of Revision I approximately 75% of this task was completed and work is progressing most satisfactorily. Several old software packages were combined during the rewrite phase to provide more powerful programs, eliminating possible costly duplications and redundancies of automated intelligence output.

b. (C) A new Visual Analysis Sub-System (VASS) program, the Batch Processor, provided JL planners with increased DGZ optimization capabilities. Prior to this only one DGZ at a time could be optimized. Now as many as 74 can be serially processed without analyst intervention.

c. (C) An updated production program, the Compounder, continued to compute related target damage within the SIOP as well as to support studies concerning preplanned damage expectancy. It also was updated to reflect current philosophies of MIRV applications. Its output provides the Force Application Team with increased capabilities in detailed options and alternatives. The program can accommodate any weapon in the inventory.

d. (C) A new Probability of Damage (POD) routine, central to numerous assessment programs (SABER, COBRA, CRUSADER, ADEM, OPTIMIZER), was written and incorporated in the subject programs to reflect the latest changes in the DIA Physical Vulnerability Handbook published in June 1969.

e. (C) A new aiming point selection program (CRUSADER) was developed to reflect a new targeting philosophy. This program was used to develop aiming points for Revision I.

f. (S) Numerous and extensive modifications to SABER, the primary JSTPS assessment model, were required to reflect new methodologies in computing damage required because of the introduction of MIRVs in the weapons inventory.

The Interdependent Compound Damage Expectancy (ICDE) fix insures [

g. (C) The contractor-developed MIRV supporting computer programs were adapted and used in the analysis of Revision I. These include the Minuteman G and Poseidon series of the MAP programs. Basically, these programs are: G102, PS102, G114, and PS114. The102 series of programs were used to support preplanning. These MIRV supporting programs were used to determine the allocation of a given number of Minuteman or Poseidon systems against a specified DGZ base. In addition to performing an allocation [

series of MIRV programs were used to perform the analysis of damage. These programs determine whether a candidate [

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expectancy at the installation level.

h. (S) In expectation of greater computer support required for Revisions J and K, due to the anticipated increase in the number of MIRVs in the weapons inventory, an automated Preplanned Damage Expectancy (PPDE) system was devised and was operational for Revision J and will be used extensively for Revision K.

4. (S) War Gaming.

a. (S) The introduction of new weapons systems, such as the FB-111 and the MIRV missile, required major modifications to the simulation models. The total IBM 7090 hours expended for program modification, test and SIOP-4I/RISOP-71 war games was about 1400 hours for the year.

b. (S) The forthcoming installation in 1972 of the WWMCCS replacement computer, a Honeywell 6070, has required considerable preplanning for the conversion of existing simulation programs.

c. (S) Besides the basic war games, about 100 hours of IBM 7090 time and 10 hours of UNIVAC 1108 time were used with highly detailed technical simulation models to investigate specific aspects of the SIOP, [ ]

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