

# STUDENT RESEARCH PAPER

THIS PAPER IS AN INDIVIDUAL EFFORT ON THE PART OF A STUDENT AT THE US ARMY WAR COLLEGE. IT IS FURNISHED WITHOUT COMMENT BY THE COLLEGE FOR SUCH BENEFIT TO THE USER AS MAY ACCRUE.

8 April 1966

## AN APPRAISAL OF THE COMMAND AND CONTROL SYSTEM AT THE NATIONAL LEVEL

By

RICHARD G. FAZAKERLEY

Lieutenant Colonel, Finance Corps

JUL 21 1966

U.S. ARMY WAR COLLEGE



REPRODUCTION OF THIS DOCUMENT IN WHOLE OR IN PART IS PROHIBITED EXCEPT WITH PERMISSION OF THE COMMANDANT, US ARMY WAR COLLEGE.

US ARMY WAR COLLEGE, CARLISLE BARRACKS, PENNSYLVANIA

AWC LOG #

66-4-131 U

Copy No. 2 of 13 Copies

DTIC® has determined on 04/17/2009 that this Technical Document has the Distribution Statement checked below. The current distribution for this document can be found in the DTIC® Technical Report Database.

**DISTRIBUTION STATEMENT A.** Approved for public release; distribution is unlimited.

**© COPYRIGHTED;** U.S. Government or Federal Rights License. All other rights and uses except those permitted by copyright law are reserved by the copyright owner.

**DISTRIBUTION STATEMENT B.** Distribution authorized to U.S. Government agencies only (fill in reason) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office)

**DISTRIBUTION STATEMENT C.** Distribution authorized to U.S. Government Agencies and their contractors (fill in reason) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office)

**DISTRIBUTION STATEMENT D.** Distribution authorized to the Department of Defense and U.S. DoD contractors only (fill in reason) (date of determination). Other requests shall be referred to (insert controlling DoD office).

**DISTRIBUTION STATEMENT E.** Distribution authorized to DoD Components only (fill in reason) (date of determination). Other requests shall be referred to (insert controlling DoD office).

**DISTRIBUTION STATEMENT F.** Further dissemination only as directed by (inserting controlling DoD office) (date of determination) or higher DoD authority.

*Distribution Statement F is also used when a document does not contain a distribution statement and no distribution statement can be determined.*

**DISTRIBUTION STATEMENT X.** Distribution authorized to U.S. Government Agencies and private individuals or enterprises eligible to obtain export-controlled technical data in accordance with DoDD 5230.25; (date of determination). DoD Controlling Office is (insert controlling DoD office).

USAWC RESEARCH ELEMENT  
(Research Paper)

An Appraisal of the Command and Control System  
at the National Level

by

Lt Col Richard G. Fazakerley  
Finance Corps

US Army War College  
Carlisle Barracks, Pennsylvania  
8 April 1966

## TABLE OF CONTENTS

	Page
SUMMARY . . . . .	iv
CHAPTER 1. INTRODUCTION . . . . .	1
Purpose and scope . . . . .	1
Definitions . . . . .	3
2. THE ENVIRONMENT . . . . .	6
Effect of world affairs on command and control responsibilities of the United States . . . . .	6
The National Security Council . . . . .	8
Decision-making with respect to national security matters . . . . .	11
3. NATIONAL COMMAND AND CONTROL FACILITIES . . . . .	14
The Department of State . . . . .	14
The Department of Defense . . . . .	17
The National Military Command Center . . . . .	18
Command and control at Military Department Headquarters . . . . .	23
Other Agencies . . . . .	25
Summary . . . . .	28
4. NATIONAL COMMAND AND CONTROL SYSTEM REQUIREMENTS . . . . .	30
General . . . . .	30
Command and control an instrument of national strategy . . . . .	33
Command and control and military command in the field . . . . .	41
5. CONCLUSIONS . . . . .	52
Actions which would result in improved command and control government-wide . . . . .	52
Actions which would result in improved command and control within Department of Defense . . . . .	55
Organizational and management improvement needed . . . . .	59
BIBLIOGRAPHY . . . . .	62
ANNEX A. U.S. military commitments around the world . . . . .	69
B. Organization chart, Executive office of the President . . . . .	70
C. Organization chart, Department of State . . . . .	71
D. Schematic Diagram, Department of State Operations Center . . . . .	72
E. Organization chart, Department of Defense . . . . .	73
F. Organization chart, Joint Chiefs of Staff and other OSD agencies . . . . .	74
G. Diagram of the NMCS/NMCC . . . . .	75

	Page
ANNEX H. Diagram of the NMCS communications network . .	76
I. Organization chart, Office of Emergency Planning and its regions . . . . .	77
J. Basic principles and characteristics for sound command and control systems development in OSD . . . . .	78
K. Suggested organization for improved command and control systems development . . . . .	79

## SUMMARY

The United States emerged from World War II in a position of undisputed leadership in the free world. The US response and contributions to this role were apparent from its generous support of the United Nations Organization, the initiation of the Marshall Plan and the extensive aid provided to underdeveloped and war-ravaged countries. At the same time, the USSR as the proponent of world communism, was rapidly closing the gap existing between that country and the United States in the development of nuclear weapons and missiles. The influence of these factors as a new dimension of the risks of general war was soon demonstrated by the controlled and limited manner in which the Korean War was conducted. It is this emphasis on limitation or control, occasioned by the introduction of mass destruction weapons, that this paper is concerned with. More specifically, this paper examines the dramatically increased need for thorough and responsive government-wide consideration of crises occurring which affect US national policies and commitments.

An appraisal of the command and control mechanism available to the President reveals that since the increased emphasis placed on the functions of the National Security Council by President Truman at the outset of the Korean War, there has been a growing awareness of the need for coordinated US military responses which embrace the political, psychological and economic aspects of a given situation in addition to purely military factors. In addition, the need for continued coordinated planning among those government agencies of the United States primarily concerned with national security, utilizing advanced techniques of communication and computer support, is fundamental to the development of a truly viable national command and control system. An advanced command and control system supported by an equally sophisticated communications systems will provide the President and the national command authorities a capability for precise and selective application of military power. Still it must be recognized that the key capability of this enhanced system, that is, "centralized control," is also the characteristic of the system, which if abused can cause fatal decay in the military effectiveness of operating forces in the field, and therefore must be exercised with utmost restraint.

This paper concludes that a great deal of planning and development of command and control systems in our government has already been accomplished, particularly in the Department of Defense and its National Military Command System (NMCS). The further development and refinement of these efforts in concert with other primary agencies of the Federal Government such as the State Department, Central Intelligence Agency and the Office of

Emergency Planning needs additional impetus and attention. To be truly effective, command and control must respond to basic system needs dictated by national strategy policies and objectives as determined by government officials at the national level. To provide a mechanism for obtaining these systems determinants, to plan interagency development efforts, and to conduct surveillance and periodic review of progress toward established goals, an organizational arrangement has been proposed in this paper, together with suggested principles and characteristics of systems development efforts for application within the Defense Department.

## CHAPTER 1

### INTRODUCTION

#### PURPOSE AND SCOPE

The whole world witnessed the devastation wrought by the atomic bomb during the final campaign of United States forces against Japan during World War II. World tensions continued to mount as it observed the scientific race between the United States and the Soviet Union to perfect nuclear weapons capable of far greater destruction, as well as a variety of delivery systems. This environment provided the backdrop for the introduction of the limited war concept. President Kennedy described the dangerous world situation as follows:

With all of the history of war, and the human race's history unfortunately has been a good deal more war than peace, with nuclear weapons distributed all through the world, and available, and the strong reluctance of any people to accept defeat, I see the possibility in the 1970's of the President of the United States having to face a world in which 15 or 20 or 25 nations may have these weapons. I regard that as the greatest possible danger and hazard.<sup>1</sup>

When the North Koreans crossed the 38th Parallel into South Korea in June 1950, the United States and the Soviet Union possessed large conventional military forces and nuclear weapons. They each had been supporting competing ideologies for a unified

---

<sup>1</sup>Arthur B. Tourtellot, The Presidents on the Presidency, p. 344.

Korea since 1946. Neither side wished to allow the other a victory, yet both sides realized the dangers of a general war. The Korean War quickly emerged as the first use of American military force by a President with carefully limited and announced objectives, in the postnuclear weapons era.

Thus, the previously close interrelationship of the application of military power in support of US foreign policy, responsive to the President as the Commander in Chief, is more heavily underscored in a limited war situation than required previously. In view of the foregoing, command and control of United States armed forces by national command authorities utilizing a worldwide system, emerges as a key factor in the execution of decisions and selective application of this force. Continued development and improvement of the command and control system is implicit in the future of the United States in the same sense that weapons systems must continue to be developed and improved. The purpose of this paper is to analyze the national command and control system as it exists today and to develop recommendations for strengthening the system in the future.

The approach of this paper will be to investigate the operational environment of command and control at the national level and to postulate, based on US experience in crisis management in the past, the rationale of high level decision-making, and to evaluate the command and control resources of the Defense Department and other appropriate agencies of government.

After analyzing the need and available resources, a delineation of command and control requirements will be developed for various categories of war contingencies. The current Department of Defense field command and control network and the supporting communications will also be discussed particularly as it pertains to the author's appraisal of the prevailing operational situation. This paper will conclude with suggested actions and organizational and management improvements aimed at improving the interagency aspects of command and control, as well as providing for the development of compatible command and control systems within the Department of Defense.

#### DEFINITIONS

The following terms are defined to assist clarity of understanding:

General War. "Armed conflict between the major powers of the communist and free worlds in which the total resources of the belligerents are employed, and the national survival of a major belligerent is in jeopardy."<sup>2</sup>

Limited War. "Armed conflict short of general war, exclusive of incidents, involving the overt engagement of the military forces of two or more nations."<sup>3</sup>

---

<sup>2</sup>US Joint Chiefs of Staff, Dictionary of United States Terms for Joint Usage, JCS Pub. 1, p. 64.

<sup>3</sup>Ibid., p. 83.

Command and Control. "An arrangement of personnel, facilities, and the means for information acquisition, processing, and dissemination employed by a commander in planning, directing and controlling operations."<sup>4</sup>

Communications. "A method or means of conveying information of any kind from one person or place to another, except by direct unassisted conversation or correspondence through nonmilitary postal agencies."<sup>5</sup>

World Wide Military Command and Control System (WWMCCS).

Consists of the facilities, equipment, communications, procedures and personnel that provide the technical and operational support involved in the functions of command and control of U.S. military forces. The system is comprised of: a.) The National Military Command System; b.) The sub-systems of the unified and specified commands; c.) The sub-systems of the Service Headquarters; d.) The sub-systems of the Component Commands; e.) Those elements of the systems of other Department of Defense Agencies and offices which directly support the command and control function, e.g., Defense Atomic Support Agency, Defense Intelligence Agency and the Defense Communication Agency.<sup>6</sup>

Appropriate also to this paper is the definition of strategic control formulated in a study conducted by a government contractor as follows:

The term 'strategic control' implies the total management of those political and military institutions which are responsible for the passive or active use of strategic nuclear weapons. The functions of

---

<sup>4</sup>Ibid., p. 32.

<sup>5</sup>Ibid., p. 33.

<sup>6</sup>US Joint Chiefs of Staff, Unified Action Armed Forces (UNAAF), JCS Pub. 2, p. 6.1.

strategic control correspond to the traditional functions of resource management and includes planning, organization, communication (including related feedbacks), and execution, all required to provide readiness control, protection control, and concomitant control of the military capability.<sup>7</sup>

---

<sup>7</sup>General Electric Company, Strategic Control; Its Essentiality and Feasibility (U), p. 2. CONFIDENTIAL

## CHAPTER 2

### THE ENVIRONMENT

#### EFFECT OF WORLD AFFAIRS ON COMMAND AND CONTROL RESPONSIBILITIES OF THE UNITED STATES

An analysis of history would provide numerous instances of inconsistency between national policy and military operations directed by commanders in the field. However, in past wars the extent of destruction was relatively small and actions which were noted to be in conflict with policy could be adjusted before their impact reached serious proportions. Decisions made in future wars will need to be more precisely in accordance with the prevailing national policy. The evidence elicited from reviewing various crisis actions of recent history indicate that commanders may be required to sacrifice flexibility of local decision to some degree and accept a greater rigidity in policy than heretofore. Since future wars can occur through accident or deliberately, in either high or low intensity, the reaction planning of the United States must be based upon the most imaginative interpretation of the command and control system necessary to collate the motives, means, and strategies of the enemy threat, against the capabilities of existing US forces, and those factors involving the defense of US citizens and US industrial and economic facilities. It is important to observe that our attention to obtaining a system which would provide prompt retaliatory attack on our enemy has resulted

in a high degree of confidence in our ability to do so. However, the ability to control the variations of that blow is essential to preserve the national welfare. The crux of the problem facing the United States is not only the ability to apply the proper force or take the appropriate action to insure survival of the United States, but additionally, to advance international peaceful aims, by avoiding spontaneous conflicts and reducing the possibility of unavoidable wars. Command and control at the national level is the instrument for the issuance of appropriate policy guidance developed as a best synthesis of the various national security policy-making agencies of our government, the Department of State, the Department of Defense, the Central Intelligence Agency and the Office of Emergency Planning. Although nuclear weapons are the primary factor in the complexity of national defense, it is further complicated by our deployment of forces worldwide, in support of US unilateral agreements or regional alliances. (See Annex A for Chart concerning worldwide commitments of the US.) These world commitments place a corresponding requirement for a command and control system capable of precise and controlled responses of US forces, at tremendous distances and with extremely difficult problems of communication, force deployment, and logistical and administrative support. This is the mark and the price of leadership of the free world, yet in its fulfillment lies the ever present possibility of misstep, resulting in a loss of control and possibly world chaos.

## THE NATIONAL SECURITY COUNCIL

The National Security Council (NSC) created by the National Security Act of 1947, and modified by the Congress and Presidents in office since that time, fulfills the need for a single, top-ranking body to formulate and correlate national security policy.

Functions assigned to the NSC are as follows:

To advise the President with respect to the integration of domestic, foreign, and military policies relating to the national security so as to enable the military services and other departments and agencies of the government to cooperate more effectively in matters involving the national security.<sup>1</sup>

The National Security Council has been operative under four Presidents. Each has organized it in a slightly different manner, assigning slightly different responsibilities. Prior to the Korean War the National Security Council could not be viewed as a policy-making organization, although by that time the Council had developed into a well integrated and functioning organization. It had met more than 50 times during the period of two years and nine months between its establishment and the outbreak of the Korean War.<sup>2</sup> Still Walter Millis complained that the Council failed to come to grips with larger issues, or when they did so, "lacked the precision and decisiveness necessary if they were to serve as guides to action."<sup>3</sup>

---

<sup>1</sup>US Congress, Senate, Committee on Government Operations, Organizing for National Security, p. 9.

<sup>2</sup>US Industrial College of the Armed Forces, Organization for National Security, p. 86 (referred to hereafter as "USICAF, National Security").

<sup>3</sup>Walter Millis, and others, Arms and the State: Civil Military Elements in National Policy, p. 182.

With reference to the development of policy by the NSC, Millis described it this way:

The effect of the NSC is not prominent; the NSC no doubt considered the staff papers; debated policy and arrived at recommendations, but every glimpse we have been given of the actual policy-making process in this period (prior to Korea) shows Defense, State, and Budget Bureau, and the White House, making the independent determinations--which really counted.<sup>4</sup>

During the period it was also growing increasingly apparent that the NSC could not remain primarily oriented toward aspects of foreign policy. Problems of atomic energy, internal security, defense mobilization, and military strategy were beginning to play a more important part. President Truman noted these changes as did the Council, and when the Korean War began, he reorganized it and began to rely heavily on it as a means for supervising and conducting a limited war in Korea.<sup>5</sup>

Following the changes made by preceding Presidents, President Johnson now has a NSC consisting of himself, the Vice-President, Secretaries of State and Defense, the Director, Office of Emergency Planning, and the President's Special Assistant for National Security Affairs. Advisors to the NSC include the Chairman of the Joint Chiefs of Staff and the Director of the Central Intelligence Agency.<sup>6</sup> Together with the Office of Emergency Planning, the NSC is an integral part of the Executive Office of the President as shown in Annex B.

---

<sup>4</sup>Ibid., p. 223.

<sup>5</sup>USICAF, National Security, p. 90.

<sup>6</sup>Ibid., p. 103.

Consistent with the policy and recommendations provided to President Kennedy by the Subcommittee on National Policy Machinery,<sup>7</sup> the Secretary of State played a leading role in the operations of the NSC under Kennedy. This policy has continued under President Johnson. During the Cuban Crisis in October 1962, President Kennedy met almost daily with the so-called Executive Committee of the NSC. This Committee consisted of the President, Secretaries Rusk and McNamara, Secretary of Treasury C. Douglas Dillon, Attorney General Robert Kennedy, CIA Director John A. McCone, JCS Chairman General Taylor, Presidential Assistant Bundy and the President's Special Counsel Theodore C. Sorensen. Also present at many of the meetings were Vice-President Johnson, Under Secretary of State George Ball, Deputy Secretary of Defense Roswell Gilpatric, Ambassador at Large L. E. Thompson, United Nations Ambassador Adlai E. Stevenson, and former Secretary of State Dean Acheson.<sup>8</sup> Whatever the form taken by President Johnson or his successors, utilizing the NSC or a special subcommittee thereof, their recommendation will form the basis for his decision whenever crisis situations occur. A viable national command and control system not only plays a vital role in communicating the decision and guidance developed for each instance of crisis, but just as importantly, this system provides the basic up-to-date

---

<sup>7</sup>Ibid., p. 101.

<sup>8</sup>Stewart Alsop, and Charles Bartlett, "In Time of Crisis," The Saturday Evening Post, Vol. 235, 8 Dec. 1962, pp. 15-20.

information pertinent to the United States capability to counter the threat.

President Kennedy recognized early in his administration the seriousness of the problems confronting him in the command and control area. He was well aware of the rapid compression of time for decision-making resulting from the perfection of intercontinental missiles and the terrible danger of miscalculation ending in nuclear holocaust. In an effort to improve this situation, the creation of the National Command and Control System was provided for in his first budget message to the Congress in March 1961. In this request for funds President Kennedy made it abundantly clear that he recognized the need for national control over threats to US security and the need for selective application of force to combat them. In this message President Kennedy called for the development of "effective and protected organizations, procedures, communications and facilities--designed to ensure thoughtful and selective decisions by the civilian authorities."<sup>9</sup>

#### DECISION-MAKING WITH RESPECT TO NATIONAL SECURITY MATTERS

As previously indicated, the mechanism utilized for crisis management by Presidents since 1947 including the supervision of the limited war in Korea was the National Security Council or a variation thereof. This arrangement provided them with control

---

<sup>9</sup>J. S. Butz, "White House Command Post-1966," Air Force and Space Digest, Vol. 47, Apr. 1964, p. 74.

over the existing situation and a means of planning and coordinating future actions. A government contract study on command and control at top-level military command concluded:

The key word is 'control' (in command and control). Decisions made at this level, perhaps more than any other, must have the effect of controlling situations and future events. If decisions follow events, or react to situations out of control, the top level of command is not in the desired position of leadership.<sup>10</sup>

This study also points out the need to review and synthesize all the facets of the problem; the effect of the proposed solution on national interests, and, at the same time, take cognizance of the world leadership responsibilities of the United States.

In a recent book, Theodore C. Sorensen described decision-making in the White House as not a science but an art, not so much calculation but judgement, with every decision involving risk. Here are some of the observations Sorensen reveals concerning presidential decision-making. On the "kind of problems" he states:

No one else faces so many complex issues where the solutions are so remote, so dependent on the undependable and so tinged with potential disaster. No one else, as Woodrow Wilson said, bears such multiple responsibilities in so many different and conflicting areas.<sup>11</sup>

Referring to the complexity of decisions reached, Sorensen continues:

There is no certain pattern, (for problems referred to the White House for decision). President Eisenhower

---

<sup>10</sup>General Electric Company, The Structure and Operation of Top-Level Military Command, p. 28.

<sup>11</sup>Theodore C. Sorensen, Decision-Making in the White House, p. 12.

rightly told President Kennedy: 'There are no easy matters that will come to you as President. If they are easy, they will be settled at a lower level.'<sup>12</sup>

Sorensen described the need for good data upon which to base decisions as follows:

The primary problem of presidential information, however, is usually not an abundance of reliable data but a shortage, especially in foreign affairs. . . . The apparatus and operations of modern intelligence systems can obtain and assemble great quantities of heretofore unreachable facts . . . but they cannot predict the future. And it is the future which most often must be gauged.<sup>13</sup>

And again Sorensen states:

. . . despite the narrowness of his available resources and the restrictions on his permissible options . . . despite all these limitations, the President must, nevertheless, make decisions every day on courses for the nation that may decide its success or survival.<sup>14</sup>

The major factor in decision-making at the national level is time. This is surely a factor in decisions at all echelons but it is particularly limiting at the national level, for involved in the consideration of time is the question of priority and level of decision, that is, what must come to the President, to the Cabinet Head or other key government officials for decision, and which problem has priority in the national interest. Describing the time factor in Presidential decision-making Sorensen states:

Time rules out many decisions. A President should not try to decide too few issues . . . but neither can he decide too many. Above all, he should decide what it is he need not decide at that time.<sup>15</sup>

---

<sup>12</sup>Ibid., p. 13.

<sup>13</sup>Ibid., p. 34.

<sup>14</sup>Ibid., p. 41.

<sup>15</sup>Ibid., p. 17.

## CHAPTER 3

### NATIONAL COMMAND AND CONTROL FACILITIES

#### THE DEPARTMENT OF STATE

Under President Eisenhower, national security planning functions were carried out by the NSC Planning Board, while the coordinating function was provided by the NSC, Operations Coordinating Board. The abolition of these subactivities by President Kennedy, increased the State Department planning functions and the responsibility of its operating bureaus for inter-agency leadership in the implementation and coordination of national foreign policy. State Department responsibilities were also emphasized by the increased stature assigned to ambassadors as directors of overseas country teams.<sup>1</sup>

State Department implementation and coordination of policy in crisis or near-crisis situations was strengthened in January 1962, by the creation of the State Department Operations Center as an element of the Office of the Executive Secretary of the Department, as indicated in Annex C. The Operations Center equipment, personnel staffing and procedures have been steadily improved during the intervening period. Two significant events contributed to the present status of the Operations Center. These were the hijacking

---

<sup>1</sup>John F. Kennedy, Memorandum for Heads of Executive Departments and Agencies, Subject, "Responsibilities of Chiefs of American Diplomatic Missions," Federal Register, Vol. 26, 17 Nov. 1961, p. 10749.

of the Venezuelan ship, Anzoategui, by members of the FALN, and the Cuban missile crisis. During the Cuban Crisis, it became evident that a closer working relationship with the Department of Defense was necessary. Arrangements were made for the detail of several State Department foreign service officers to the Joint Chiefs of Staff to augment the battle staff of the NMCC and to coordinate the flow of information. From this temporary arrangement evolved the State-DOD Officer Exchange Program providing full-time liaison in the Operations Center at the State Department, and in the National Military Command Center in the Pentagon.

Under the provisions of this program five foreign service officers now serve on NMCC watch teams at the Pentagon, and five military officers serve on Operations Center watch teams at the State Department. When the Anzoategui incident occurred in February 1963, the State Department Operations Center was manned by middle grade foreign service officers and their reaction to this incident was not satisfactory to the Secretary of State, particularly with respect to prompt alerting of State Department officials and adequate interagency notification and coordination.<sup>2</sup> As a result the State Department staffed the Senior Watch Officer position at the higher FSO-3 level, and the other positions were established at one or two grades higher than previously authorized. Procedures utilized by the Operations Center were also changed to give the watch officers authority to

---

<sup>2</sup>James Fazio, Personal interview, 17 Nov. 1965.

alert anyone including the Secretary of State at their discretion. In April 1964, the State Department and Department of Defense entered into a formal agreement concerning the exchange of communications. This agreement provided in part:

1. It shall be the responsibility of all officers of the Department of State and Defense to assure that communications originating in one Department and its field organizations which contain information that the other Department needs to know are exchanged expeditiously, without restriction because of sensitivity.

\* \* \*

3. . . . Similarly, the Secretaries of State and Defense shall make provisions to cover non-duty hour periods so that Senior Officers on duty in the Operations Center and in the National Military Command Center will forward to the other Department . . . communications containing information which should be transmitted to the other Department without delay.<sup>3</sup>

In addition to personnel staffing and procedural changes instituted in the Operations Center, gradual improvements have been made in its physical facilities. In the spring of 1964, a remodeling effort provided four special telephone consoles in the watch officer area, including various "hot lines" with CIA, NMCC and the White House, and special purpose circuits such as the Inter-American Telephone Network. Close liaison with the State Department, Bureau of Intelligence Research, is also provided for. A secure area is provided for emergency teletype conversations with overseas posts, and adequate space for bureau officers

---

<sup>3</sup>US Depts of State and Defense, Memorandum of Agreement on the Exchange of Communications, 3 Apr. 1964, p. 1.

working as "task forces" is provided within the secure area of the Operations Center. During 1964, the Operations Center was augmented by bureau representatives on task forces in connection with problems arising in Berlin, Panama, Brazil, Cyprus, Laos, Vietnam, and East Africa.<sup>4</sup> Graphic portrayal of the floor plan of the Operations Center located adjacent to the Secretary and Under Secretary of State on the Seventh Floor of the new State Department Building is attached as Annex D. Facsimile transmission was in operation by the end of the year 1965 and provided a common system network with CIA, Defense, and the White House. This equipment is secure and can transmit classified or unclassified documents at the rate of eight pages per minute.<sup>5</sup> The Defense-White House link was operational in mid-November 1965.

#### THE DEPARTMENT OF DEFENSE

With the President as Commander in Chief, the Secretary of Defense maintains civilian control over the military departments, and through the Organization of the Joint Chiefs of Staff provides strategic direction of the unified and specified commands, employing the power of US armed forces in integrated and efficient task forces against any threats which may present themselves. The major organizational elements of the Department of Defense from the

---

<sup>4</sup>William B. Connett, Jr., "Operations Center--Locus of Crisis Management," Department of State News Letter, Aug. 1964, pp. 16-18.

<sup>5</sup>US Dept of State, Operations Center, Guidelines for Task Forces, nd, p. 5.

command and control viewpoint are: the Office of the Director of J-3 Operations, JCS, and those DOD agencies or activities which provide support to the NMCS, i.e., the National Military Command Center, the Defense Communications Agency, the Defense Intelligence Agency, the National Security Agency, and the Defense Atomic Support Agency. These activities have been highlighted in charts at Annex E and F depicting the organization of the Department of Defense. Each of the military departments and many of the federal agencies of government involved in national security matters had developed various types of command and control systems prior to 1960. However, these developments took place independently and without a common concept.<sup>6</sup> The change in basic US foreign policy from one relying primarily on nuclear strategy to one stressing flexibility necessitated the development of a highly centralized and integrated command and control system. A National Military Command Center (NMCC) under the aegis of the Secretary of Defense was the result.

#### THE NATIONAL MILITARY COMMAND CENTER

This National Military Command Center (NMCC) is the heart of the NMCS. Located in the Pentagon, it provides the command and control network of systems and facilities through which the Armed Forces and other agencies can be directed by the National Command

---

<sup>6</sup>"Command and Control Systems in the USA," Interavia, Vol. 19, Jun. 1964, p. 854.

Authorities. A great deal of money has already been applied to this project and reportedly in FY 1965, DOD expended \$159 million on construction, equipment and operation of the NMCS and another \$34 million on related research and development.<sup>7</sup> The NMCC provides a capstone to the military department command and control systems, ensures flexibility in the system for the introduction of related factors of information available from the other agencies of government, and ultimately will produce on a real-time basis the assessment of a particular situation in terms of worldwide politico-military consequences. The relationship of the NMCC to other agencies is shown in Annex G. Attaining these capabilities required a high degree of use of automatic data processing equipment linked together by sophisticated data communications systems and standardized processing and reporting systems.

Although the military departments are proceeding in an orderly manner toward providing automated data to the NMCC the pace is evolutionary and comparatively slow. Improvements in various communications equipment with field commands and other government agencies have progressed rapidly, but it is important to note that the manually prepared and updated information maintained in the military departments and other government agencies is providing an improved capability over that available in the early 1960's. At Annex H is a chart indicating the worldwide organization of the NMCC communications system.

---

<sup>7</sup>Ibid.

During 1964, the NMCC moved into new facilities that provide ample space and security to house in one contiguous area conference facilities for the national command authorities, communications linking the NMCC with all of the unified and specified commands, and all the military component commands. Business Week magazine, in referring to Defense Department communications to world trouble spots, indicates that contact with all major overseas commanders can be made in less than two minutes.<sup>8</sup> Primary reliance however is on undersea cables and high frequency (VHF) and microwave circuits. The NMCC is linked with Europe and Japan by cable, and by VHF with Turkey and Africa, routed through Europe. The Pacific cable to Japan has intermediate stations in Hawaii, Wake and Guam. Communications to Africa and Southeast Asia are not as responsive or flexible as those to main stations in Europe or the Pacific. Since the buildup of US forces began in Vietnam communications have been improved greatly. In fact, according to a feature article in Time, an Air Force C-130 airplane is performing the function of an Airborne Battle Control and Command Center on station in Vietnam and is equipped with \$2.5 million worth of advanced communications and computer-display equipment.<sup>9</sup> In addition, special links are available for communication with our embassies throughout the world.

---

<sup>8</sup>"Getting the Fast Word From the Farthest Front," Business Week, No. 1837, 14 Nov. 1964, pp. 192-198.

<sup>9</sup>"South Viet Nam - A New Kind of War," Time, Vol. 86, No. 17, 22 Oct. 1965, pp. 28-39.

Watch personnel are on duty in the NMCC around the clock and each watch includes specialists in the military operational aspects of national defense as well as experienced personnel representing the State Department, CIA, NSA, DIA, and each of the unified and specified commands.<sup>10</sup> Each watch is headed by a flag officer and communications and support personnel maintain the NMCC in full operation throughout each 24 hour day. The main center of action in the NMCC is the conference briefing room. In the center of this room is a large egg shaped conference table, equipped with individual communications positions. One wall is covered with maps depicting our own and the enemy forces. Twelve clocks on an overhead rack provide the time around the world. Data from the Ballistic Missile Early Warning System (BMEWS) can be flashed on a screen by automatic display from the DEW line and the Sage Centers via NORAD.<sup>11</sup> Teletype linkage with the State Department, Central Intelligence Agency and the White House permits quick exchange of incoming data as required.<sup>12</sup> The installation of the previously referred to secure long distance zerography (LDX) net, with stations located at the White House, NMCC and the State Department, provides additional quick reacting capability.<sup>13</sup>

Also located in the NMCC complex is the National Military Command System Support Center (NMCSSC) which provides automatic

---

<sup>10</sup>Armond Di Silvio, Personal interview, 17 Nov. 1965.

<sup>11</sup>J. H. Wagner, "NMCS: The Command Backup to Counterforce," Armed Forces Management, Vol. 9, Jul. 1963, pp. 23-25.

<sup>12</sup>Ibid.

<sup>13</sup>Ibid.

data processing around-the-clock support to the NMCC. This facility is capable of rapidly furnishing information retrieved from its files. Representative areas of this data are: Status of Forces/Active; Combat Operations Air Activities; Contingency Operations Plans (COPS); U.S. Base Requirements Overseas; and Joint Air Base Utilization Plan. Information in these files is at present primarily that furnished by submissions from the unified and specified commands in accordance with the Joint Operational Reporting System (JOPREP).<sup>14</sup> In addition to the fast-growing automated files there is also maintained in NMCC a manual reference library of technical, tactical and operational publications. A statistical organizational element of the NMCC continuously receives, compiles, and distributes statistics on ground and air operations statistics, such as sorties, losses, and location of engagements.<sup>15</sup> A graphics element provides and maintains maps, graphics, visual aids and other visual support to the NMCC, to include the Executive Situation Room, the NMCC conference room, and the White House Situation Room.<sup>16</sup>

Since the Pentagon is a soft target, alternate means and command centers have also received appropriate study and development. The main alternate for the NMCC is an underground site hardened against nuclear attack located in the eastern United

---

<sup>14</sup>Robert Donovan, Personal interview, 17 Nov. 1965.

<sup>15</sup>US Joint Chiefs of Staff, Office of Director for Operations, J-3, National Military Command Center Operating Procedure 6-2 (U), 8 Nov. 1965.

<sup>16</sup>Ibid., para. 7, p. 2.

States.<sup>17</sup> In addition, the NMCC has two command ships referred to as the National Emergency Command Posts Afloat (NECPA), and the previously described Airborne Command Post (NEACP) consisting of 5 KC-135's.<sup>18</sup>

#### COMMAND AND CONTROL AT MILITARY DEPARTMENT HEADQUARTERS

##### The Department of the Army

The Army, operating first from an Army War Room and dependent primarily on voice and teletype communication has recently made the transition to new quarters. In addition to doubling its space requirements, a computer complex along with the technicians to program and operate the equipment have also been provided. Detailed planning by Army staff personnel and the computer manufacturers' representatives have continued since July of 1963, under the general staff supervision of the Deputy Chief of Staff for Military Operations. Initial programs were being tested in December of 1965 on the newly installed automatic data processing equipment. Meanwhile the highly skilled watch personnel of the Army War Room provide support to the Secretary and the Chief of Staff of the Army and to the National Military Command Center. This is accomplished by reference to hard copy files, communications links with army elements worldwide, and by obtaining manually

---

<sup>17</sup>Wagner, op. cit., p. 23.

<sup>18</sup>"Command and Control Systems in the USA," Interavia, Vol. 19, Jun. 1964, p. 855.

prepared or automated data produced by the Army Staff in accordance with prearranged procedures.

#### The Department of the Air Force

The Air Force Command Post (AFCOP) also located in the Pentagon is in a technical sense more advanced than its sister services. It moved to what may be termed second generation computer equipment during the 1963 fiscal year. Much of its advantage derives from the pioneering efforts of the Strategic Air Command Post. The equipment in the AFCOP includes twin General Precision computers, and twelve display consoles, with an alternate site being similarly equipped.<sup>19</sup> In accordance with specified instructions, the AFCOP acts as the collection center for all important information from USAF units worldwide. Data from BMEWS and SPADATS are transmitted to AFCOP via NORAD and SAC, and weather observation and electromagnetic radiation sensings resulting from the Air Force electronic reconnaissance system are also received at the AFCOP.<sup>20</sup>

#### The Department of the Navy

The command and control of the US Navy through communications with its ships at sea, and major land support bases and ports, is designated "Flag Plot." It, too, is situated in the Pentagon and

---

<sup>19</sup>Ibid., p. 857.  
<sup>20</sup>Ibid.

has an alternate site at a classified location. Linked to Flag Plot is the Navy Information Center (NAVIC), equipped with two IBM computers for data processing.<sup>21</sup> Data maintained in the NAVIC computer indicates the latest positions of all known warships and merchantmen, in addition to data on US shipping.<sup>22</sup>

#### OTHER AGENCIES

##### The White House

The White House Situation Room receives data from the NMCC either by messenger, teletype, telephone, or zerography, and in some instances by special briefings. This information provides the President and his advisors with all the military data available along with the leavening of the political, economic and social considerations developed by the interagency staffing of the NMCC. At the White House, further evaluation is accomplished by a small but highly qualified military and civilian staff that further integrate intelligence and political aspects of a particular situation. A summary of the developing crisis is then laid before the President, and, when appropriate, his decisions are transmitted to the commanders and service command and control centers by the NMCC communications network.<sup>23</sup> The White House Situation Room is headed by a military officer but is operated by the Central

---

<sup>21</sup>Ibid., p. 856.

<sup>22</sup>Ibid., p. 857.

<sup>23</sup>Ibid., p. 855.

Intelligence Agency, while the Army provides the communications support. Equipment in the Situation Room is confined to telephones, maps, situation reports, and a teletype and zerography net with the NMCC, State Department and the CIA.<sup>24,25</sup>

The Central Intelligence Agency maintains its own operations center where strategic warning information is collated, and important events summarized for the eyes of the President and other key officials.<sup>26</sup>

#### Office of Emergency Planning

The Office of Emergency Planning (OEP) is another important element of the total picture in considering the command and control system from the national level. The duties of the Director of OEP include the provision of assistance and advice to the President in coordinating and determining policy for all emergency nonmilitary preparedness activities of the Government. The Director is a member of the National Security Council. This office is responsible for developing and planning the use of resources such as manpower, materials, industrial capacity, transportation, and communications; planning the organization of Government in an emergency; preparing for stabilization of the civilian economy and

---

<sup>24</sup>Wagner, op. cit., p. 25.

<sup>25</sup>US Dept of State, Operations Center, Guidelines for Task Forces, nd, p. 5.

<sup>26</sup>Wagner, op. cit., p. 25.

planning for rehabilitation after enemy attack.<sup>27</sup> The OEP is organized into six major offices: analysis and research, program development, government readiness, resource readiness, economic affairs, and program evaluation and has eight regional offices throughout the United States. See Annex I for Office of Emergency Planning and Regional Offices Organization Charts.

#### The Hot Line

The Washington-Moscow communications link established on 30 August 1963, generally referred to as the "hot line," must be included in any review of command and control at the national level. This link is provided by two duplex circuits, the primary is a land line cable to London, thence to Copenhagen, Stockholm, Helsinki and Moscow. The second is by radio routed between Washington to Moscow via Tangier. Both of these circuits are teletype.<sup>28</sup> The establishment of this communications link, although discussed in the press in the early 1960's,<sup>29</sup> was presented by the United States as a proposal to reduce the risk of war to the Disarmament Conference on April 18, 1962.<sup>30</sup> US Representative

---

<sup>27</sup> US Government Organizational Manual 1965-66, Office of the Federal Register, National Archives and Records Services, GSA, p. 66.

<sup>28</sup> George P. Sampson, "Washington and Moscow Linked Via Hot Line," Signal, Dec. 1963, p. 10.

<sup>29</sup> Ibid., p. 8.

<sup>30</sup> Arthur H. Dean, "US Working Paper on Reduction of the Risk of War. . . ," Department of State Bulletin, Vol. 47, 31 Dec. 1962, p. 1019.

Arthur H. Dean in stating that there was a need for further development between nations to exercise more "effective command and control over the choice of military response" stated:

Although extensive technical means of communications are available today, there is a question as to whether existing arrangements for communications between states would prove sufficiently rapid and reliable in time of military emergency or crisis. . . . steps must be taken in advance, . . . awareness of the availability of such communications links could itself prove reassuring, . . .<sup>31</sup>

President Kennedy in acclaiming the agreement reached in Geneva by US and USSR representatives to establish a direct communications link between their respective capitals stated:

This age of fast moving events requires quick dependable communications for use in time of emergency. By their signatures today, therefore, both Governments have taken a first step to help reduce the risk of war occurring by accident or miscalculation.<sup>32</sup>

#### SUMMARY

There is little doubt that the focal point in crisis management is the National Military Command Center in the Pentagon. Defense Department directives refer to the NMCC as the senior military command center, and establish rules for interaction between key governmental agencies, and in general, indicate that all political/military incidents will be directed to the NMCC, where top level judgement can be exercised to determine the

---

<sup>31</sup>Ibid., p. 1024.

<sup>32</sup>Sampson, op. cit., p. 8.

actions to be taken.<sup>33</sup> General Tibbets, once Deputy Director of the NMCS, J3, quotes Secretary McNamara on this point as follows:

As soon as intelligence identifies an impending crisis the NMCC is the focal point to which the Joint Chiefs of Staff and higher authorities turn for an immediate review of the situation and for advice as to the available course of action in time of emergency. . . .<sup>34</sup>

In sum, it is apparent that important steps have been taken since mid-1962 to organize, equip, staff and establish a command and control center that can better serve the national command authority. Great progress has been made in the field of automation in the NMCC, the military departments, and the unified and specified commands. Yet it is clear that further improvements in policy and procedures must be sought to further strengthen the NMCC to the extent that it is in fact a viable command and control center in support of the President, the Commander in Chief.

---

<sup>33</sup>P. W. Tibbets, "About Our Working National Military Command System," Armed Forces Management, Vol. 10, Jul. 1964, p. 26.

<sup>34</sup>Ibid.

## CHAPTER 4

### NATIONAL COMMAND AND CONTROL SYSTEM REQUIREMENTS

The General who wins a battle makes many calculations in his temple ere the battle is fought. The general who loses a battle makes but few calculations beforehand. Thus do many calculations lead to victory, and few calculations to defeat. How much more do no calculations at all pave the way to defeat! It is by attention to this point that I can see who is likely to win or lose.<sup>1</sup>

Sun Tzu Wu, The Art of War, 500 BC

#### GENERAL

Having discussed the command and control resources available to National Command Authorities (the President, the Secretary of Defense, the Joint Chiefs of Staff and their authorized successors),<sup>2</sup> and analyzed the decision-making rational at the highest executive levels, this chapter will first consider what the primary characteristics of the National Command and Control System should be for the employment of military forces or resources under varying situations. Secondly, the problem of centralized control as an outgrowth of advanced command, control and communications technology, coupled with the political requirements of a troubled world situation and the existence of

---

<sup>1</sup>General Electric Company, Strategic Control; Its Essentiality and Feasibility (U), frontispiece. CONFIDENTIAL

<sup>2</sup>John B. Bestic, "The National Military Command System," Signal, Vol. 18, Sep. 1963, p. 17.

nuclear weapons will be examined. Essentially, command authorities need information which will assist them in assessing the situation which faces them, and in response to these questions: What is the threat? What is the exact location and strength of the threat? What is the likely objective of the enemy? What is the ideal counterforce? Where are the components of this force now? What is their current mission? How soon and by what means can they be deployed? What effect does this have on other contingency plans? These questions are not new or all inclusive, nevertheless they epitomize the exercise of command and control at every echelon of national defense and have been utilized by commanders for centuries. The Secretary of the Air Force referred to the enduring process of the commander making an estimate of the situation as follows:

. . . Command and control, though a relatively new term, describes a process practiced by every head of state, every military commander, and most decision makers throughout history. Command and control systems whether composed of smoke signals and battle plans sketched in the sand, or electronic signals and computer technology, are aids to the civilian or military chief and his staff-to the decision-makers and operators.<sup>3</sup>

The basic complexity of the command and control problem is the terrible destructive power of nuclear weapons and the speed and responsiveness of the systems available to deliver them. Therefore the system supporting the commander must maintain and

---

<sup>3</sup>E. M. Zuckert, "Command and Control - Firm Hand and All-Seeing Eye," Air Force/Space Digest, Apr. 1965, p. 67.

constantly update data for his use. In general that data must always include:

Forces - units by type, location, strength, readiness, current mission.

Plans - service plans for war/contingency by size force, and theater.

Airlift - air units, lift capability, readiness, routes and over-flight data.

Sealift - type and location of shipping to lift personnel and cargo.

Logistics - level and location of critical items of supply.

Intelligence - Enemy Order of Battle; that is the identification, strength, command structure and disposition of units and equipment of enemy military forces.

Other - Government Agency inputs, as appropriate.

It is this latter segment of information that is least susceptible to reduction to quantitative data and storage in automated or manual form. The author refers particularly to State Department analysis and policy with reference to the political aspects of a particular threat or incident. Similarly, it would be desirable to rapidly integrate into the politico-military assessment, the information and recommendations of the Central Intelligence Agency. Although greater exchange of information and advice has been attained in the day-to-day operations of the NMCC as previously noted in this paper, a great deal remains to be done with respect to developing a data base in the NMCC of either manual (hard copy) or automated files that can respond

to emergencies and assist in rapidly formulating appropriate strategic concepts.<sup>4</sup>

COMMAND AND CONTROL AN INSTRUMENT OF NATIONAL STRATEGY

Selective application of force is difficult. It requires the ability to take a variety of actions, that is, actions which will advance the international aims of the nation at peace, deter calculated war, avoid spontaneous actions, and finally to take actions which will reduce our losses in the event of unavoidable war. In a message to Congress on the state of US defenses, President Johnson listed the following as his fifth of ten basic defense policies: "Our military forces must be so organized and directed that they can be used in a measured, controlled, and deliberate way as a versatile instrument to support our foreign policy."<sup>5</sup> It is a well known fact that a basic policy of the United States and its western allies has always been to prevent a general nuclear war short of taking steps leading to any national dishonor. The Soviet withdrawal of their missiles from Cuba is an indication that at that time they shared this view. It is also possible that other national powers in the so-called

---

<sup>4</sup>US Joint Chiefs of Staff, Dictionary of United States Terms for Joint Usage, JCS Pub. 1, p. 135, defines strategic concept - the course of action accepted as the result of the estimate of the strategic situation. It is a statement of what is to be done expressed in broad terms sufficiently flexible to permit its use in framing the basic undertakings which stem from it.

<sup>5</sup>US Library of Congress, Legislative Reference Service, United States Defense Policies in 1964, p. 18.

nuclear club, may some day share a mature respect for the destructive might (and the economic drain) of nuclear weapons and adopt a similar attitude. That environment would further emphasize selective control of military power. President Johnson expressed his views on this subject as follows:

Once - once upon a time even large scale wars could be waged without risking the end of civilization. But what was once upon a time is no longer so, because general war is impossible. In a matter of moments you can wipe out from 50 to 100 million of our people taking half of our land, half of our population in a matter of an hour. . . . So general war is impossible and some alternatives are essential. . . . The people of the world, I think, prefer reasoned agreement to ready attack.<sup>6</sup>

Since the ideal system of command and control is one which explicitly supports our national strategy objectives, what implications do we find for command and control in support of these conditions? What is the interaction of command and control and national strategy?

#### Command and Control to Advance Peace

The first category or descriptive topic might be that of "advancing peace in the world." During time of peace general war forces have an important influence since these forces can deter an all-out war. For example, US policy with respect to the Berlin situation is clearly understood and credible because we have the military power to make it so. Similarly, the US is

---

<sup>6</sup>Ibid., p. 19.

inhibited to a degree in our actions with respect to overseas bases by the Soviet supported Castro regime in Cuba. The central question then appears to be how a formidable and credible threat can be maintained. Roger E. Levien suggests that there may be four general methods of establishing a credible threat of destruction to advance peacetime interests:

- (1) make massive retaliation automatic; (2) retain the threat of massive counter-value attacks but include simultaneous large scale counterforce attacks; (3) share control of our strike forces with decision-makers outside of the US but with whom it has common defense ties; (4) change our tactics to cause them to seem more credible, i.e., threaten limited target destruction.<sup>7</sup>

The requirements of the command and control system to support these methods, that is, to increase the credibility of our military power, make it abundantly clear that: automatic sensors will be needed to transmit instantly the enemy's intentions; command centers must have sufficient survivability to execute the response; communications must be adequate to flash the incident to the command center and the order to be executed in response thereto. Therefore the command and control system must be constantly updating information derived from sensors concerning enemy disposition and intentions.

---

<sup>7</sup>RAND Corporation, National Strategy Implications For Command and Control, by Roger E. Levien, pp. 9-10.

## Command and Control to Deter War

The second category with which the command and control system must contend is that of "detering premeditated war." It is always possible that an enemy may feel that his interests might be better served by initiating war on the United States. This conclusion could be the outcome of a situation under control, as a limited war, but one in which mounting losses by slow attrition and gradual escalation have become intolerable to the enemy government and its people, to a degree which encourages a declaration of general war on the US mainland in an attempt to equalize the war making potentials of the participants. This eventuality, in the light of the general devastation which could occur, is in the category of desperation and is quite unlikely, yet it is possible that future political, economic, and scientific developments may make this a feasible policy choice. The question is how a nation can be deterred from selecting general war as a solution. What characteristics must our command and control system have to combat it? Credible military strength and the will to employ it continues to be the prime element. In addition, survivability and sophisticated communication of warnings and retaliatory strikes is a prerequisite of adequate command and control for use in deterring war. The decision-making process still must determine authenticity of the attack and react promptly and appropriately in accordance with previously developed policies. Choice of retaliation can include counterforce or countercity or a

combination thereof. In any event, the compression of time to respond is a major consideration and places the most sophisticated technical and human requirements on the overall capabilities of the command and control system. In referring to the ability to limit our response it was Roger Levien's opinion that we face the necessity of constructing an iron-willed, steel-nerved command and control system.<sup>8</sup>

#### Command and Control to Prevent Inadvertent War

The third category of contingencies with which command and control must deal is "preventing inadvertent war." Inadvertent war can occur in several ways. Levien describes the possibilities as follows:

Weapons may be launched by accident, by mechanical failure, by human mistake or by misunderstanding. A person in authority may make an unauthorized or irrational or malevolent decision. A third nation, seeking to benefit from the mutual devastation of two great powers, . . . If the full fury of either nation is so delicately poised that a small number of nuclear detonations of uncertain origin can trigger it, then the chances of disastrous inadvertent war are uncomfortably high.<sup>9</sup>

Obviously a major step toward prevention of this type war is the procedures used by nations in controlling weapons release. Secondly, verification steps must be developed such as that afforded by the "hot-line" between Moscow and Washington and

---

<sup>8</sup>Ibid., p. 14.

<sup>9</sup>Ibid., p. 15.

hopefully in later years to all nations possessing a strategic nuclear weapons capability. William W. Kaufman notes that John T. McNaughton, Assistant Secretary of Defense for International Security Affairs, stated that "the US can survive a first strike . . . that the potential enemy knows it . . . that the President would have time to evaluate and order reprisal in accordance with the factual situation."<sup>10</sup> Kaufman points out that even if this were true, the time gained would be of little value unless a directing brain could use it appropriately.<sup>11</sup> In other words, the command and control system must have great flexibility, be capable of assembling, evaluating, and transmitting information promptly between the decision-maker, the President, and the field commander. There is real doubt that the US could claim this capability in the early 1960's, though we are slowly approaching this capability through programmed improvements in our national military command system and in the overall US advances in communications, computer, and space technology.

#### Command and Control and Unavoidable War

The last contingency with which the national command and control system must contend is the "unavoidable general war." Again it is apparent that the command and control system depends

---

<sup>10</sup>John T. McNaughton, as quoted by William W. Kaufman, The McNamara Strategy, p. 142.

<sup>11</sup>Ibid.

for its design upon the requirements established by internal US policy and national strategy considerations with respect to the US reaction and conduct if engaged in an unavoidable general war. General war implies the early use of nuclear weapons in support of any of the variety of strategies of target selection, that is, counterforce, countervalue, or some combination thereof. The role of command and control in this environment is crucial and is, in a sense, the measure of the available government options in any given situation. Certain basic characteristics of a general war are described by Levien as follows:

If a thermonuclear war were fought rationally, then it would have to be fought with all attention focused on the negotiations for its end . . . if the war was premeditated, some issue, some dispute great enough to have initiated nuclear war stands between the parties.<sup>12</sup>

In addition to the conduct of war and direction of available weapon systems, the sensors available to the US concerning the disposition and intentions of the enemy will undoubtedly play an important role in overall command and control operations. It is also appropriate to note that negotiation of the basic and subsequent issues which divide the participants can be in itself an objective of military operations. For example, the withholding of a secure and credible countervalue force thus temporarily sparing the enemy's population and economy, might have the effect

---

<sup>12</sup>RAND Corporation, National Strategy Implications For Command and Control, by Roger E. Levien, p. 18.

of deterring the enemy from striking US population centers of equal value. Dependent upon the degree of success of these limitations, and the adequacy of the opposing states' command and control apparatus there is strong reason to believe that a general war might evolve into a "controlled war," another step toward negotiation and elimination of the basic issue underlying the conflict. Negotiation calls upon the command and control system to provide communication with the enemy, to assemble and evaluate intelligence regarding the enemy, to display the status of US forces and finally a capability to verify compliance with agreements made, that is, arms control and the final disposition of forces. It is in this area of verification of opponent's willingness to restrain his forces, that Levien foresees difficulties similar to the mistrust evidenced in current peacetime arms control negotiations.<sup>13</sup>

Although the preceding discussion of command and control system requirements has evolved certain distinctions appropriate to the various categories of contingencies foreseen, prerequisites of the command and control system capabilities all seem to emphasize the need for the most sophisticated integration of sensor information, communication technology, and operational force control, supported by advanced real-time automated data processing support. Interagency study and participation in

---

<sup>13</sup>Ibid., p. 20.

policy formulation acceptable to the Commander in Chief, responding to a variety of challenges to our national security, emerges as a most important step in developing an organized system in consonance with US security policy objectives.

#### COMMAND AND CONTROL AND MILITARY COMMAND IN THE FIELD

Since World War II, crises have occurred around the world and have demonstrated that the military commander in the field was closely controlled by his government. The US has been involved in Korea, Berlin, Lebanon, Quemoy, Cuba, Vietnam and, more recently, the Dominican Republic situations; France in Vietnam and Algeria; Great Britain in Suez, Cyprus, Malaya and, more recently, Rhodesia; just to mention a few well known examples. The governments involved employed the minimum power required to attain the results desired. Limits and intentions of the military action were generally announced promptly to alleviate the suspicions or fears of other nation states. These limitations, and the selective use of minimum but adequate force have as their purpose the avoidance of entanglements with third nations, world war, and the possible occasion of thermonuclear war. Many agree that there is an evolving trend toward centralization of control, that the need is great, and that the communications available to the National Command Authorities makes it possible, but the question of centralization becomes circumspect in its application. Questions appropriate in considering proper

application of centralized control of the field commander include: What is the extent of professional senior military representation in high level decision-making conferences which lead to the selection of the best course of action? Who issues the order to execute the decision? Are command channels followed so that the normal appropriate and multiple operational and support actions are taken? Is the execution order understood, and in the event it is not, does the system permit and encourage the seeking of clarification? Is policy guidance and procedures for all reasonably postulated conditions of crisis available to major commanders and selected responsible military commanders in remote or isolated units (i.e., polaris submarines)? Do policies permit and encourage a field commander to exploit military situations when they present themselves in the field?

In considering the underlying misgivings leading to the questions posed above, it may be helpful to examine the management of the Cuban Crisis. That crisis without doubt combined all the characteristics complicating national security in the world since World War II. The Cuban operation was conducted to attain the limited goal of removing Russian missiles from Cuba. This was in consonance with an earlier announcement by President Kennedy that the US would not permit the introduction of offensive weapons into Cuba. Utilizing an Executive Committee (EXCOM) of the National Security Council the US government was able to accomplish their goal. This particular crisis also is

the basis of many misgivings with reference to its military operational aspects. With respect to EXCOM and its control over the Cuban affair William Kintner wrote:

It was noteworthy, however, that the basic policy and major decisions of this operation, involving the risk of a much wider conflict, appear to have been formulated with limited participation of senior military representatives except for that of the Chairman of the JCS himself. It also appears that there was considerable detailed operational direction by both the President and the Secretary of Defense of those military forces actually employed in establishing the blockade around Cuba.<sup>14</sup>

Referring to the importance of the proper use of the chain of command, the degree of exercise of operational control, and the erosion of military effectiveness and initiative, Major George Fielding Eliot expressed the following thoughts:

In the Cuban instance, the established system of military control was literally pushed aside in favor of a committee, largely civilian in composition and chaired by the President in person, . . . It issued, through Secretary McNamara, the most detailed daily orders. . . . The details of execution should have been left in Admiral Dennison's (CINCLANT) hands, and in those of his naval task-force commanders and ship skippers—a course far more efficient and far safer than trying to run the show from a Washington committee room practically on an hour-to-hour basis.<sup>15</sup>

It is generally held that the Chief of Naval Operations, Admiral George Anderson, a brilliant career officer, highly respected in

---

<sup>14</sup>William R. Kintner, The Politicization of Strategy in National Security: Political, Military and Economic Strategies in the Decade Ahead, p. 4.

<sup>15</sup>George Fielding Eliot, "The Conflict in the Pentagon," American Legion Magazine, Nov. 1963, p. 41.

Washington, was replaced because of differences between himself and Secretary of Defense McNamara, concerning the Secretary's intervention in command channels, and the detailed and direct control methods, which sometimes bypassed responsible commanders, that he and other officials had used during the Cuban Crisis.<sup>16</sup> Other serious shortcomings evolve from the use of an EXCOM arrangement such as that used in the Cuban Crisis, to conduct detailed operations, since such an arrangement ignores the possible consequences of the instant crisis being only one element of a planned or spontaneous series, threatening our national security and requiring attention. The chaos resulting from either an expansion of the responsibilities assumed by the EXCOM or by a sudden mid-term transfer of responsibility to rightful and responsible elements of the Defense Department are obvious. Defense agencies, activities and field commands although highly diversified have much in common, speak the same language, adhere to approved joint plans, and frequently exercise their alert system and command execution of war and contingency plans.

Overcentralization in national command and control can lead to abuses and weaknesses in our national security both from a short and long range view. In the long run the continuation of highly centralized controls utilized during the Cuban Crisis, and in the early phases of the US buildup in Vietnam, as well as in

---

<sup>16</sup>Hansen Baldwin, as quoted by Henry Eccles, Military Concepts and Philosophy, p. 170.

the Dominican Republic, can contribute to the deterioration of the esprit, confidence and professionalism of the military. This will be true because the results of the highly centralized control exercised from Washington encourages buck-passing, that is, passing a decision up to the next higher echelon by service chiefs and field subordinate commanders. Individuals now in the service that have the experience and training to decide, will eventually leave the service only to be replaced by those whose training will be less and less capable of decisive action. General Wheeler, Chairman of the JCS, apparently shares this concern that the capability of the professional soldier on today's battlefield could be impaired. In a speech during the fall of 1965, he stated:

Our system is excellent, but we face the continual danger of ineffective implementation if we are not continually on the alert. . . . Our armed forces operations have been successful in the past because commanders exercise command freely on the spot and not with their hands tied by management directives.  
...<sup>17</sup>

If we examine the events of the Tonkin Bay incident, that is, the second unprovoked attack by North Vietnam motor torpedo boats against US destroyers patrolling in the Tonkin Bay on 4 August 1964, we find some interesting and important aspects in the handling of this major incident by President Johnson. The total reaction time was slightly less than 12 hours from the moment

---

<sup>17</sup> John G. Norris, "Gen Wheeler Warns On Over Controlling," Washington Post, 16 Sep. 1965, p. F1.

that Washington learned of the attack and the moment that US planes left the decks of carriers to strike back.<sup>18</sup> In analyzing this action the following ten steps<sup>19</sup> are clearly discernable:

First: Word of the second torpedo attack on US destroyers came to the Secretary of Defense through military channels of communication and the NMCS at about 1100 hours on 4 Aug. 1965.

Second: After a brief meeting of the Joint Chiefs and the Secretaries of State and Defense, the Secretaries went to the White House to advise the President.

Third: The agenda previously set for a NSC meeting was scrubbed and the Tonkin Bay incident was discussed with the Secretaries of Defense and State, the Deputy Secretary of Defense and the Special Assistant to the President for National Security Affairs.

Fourth: The President had previously ordered the Navy to destroy its attackers in any future incident, following the first attack on 2 August.

Fifth: An ad hoc group to work out details of the strategy for the National Command Authority was formed. (Bundy, Vance, Wheeler, Ball, McCone, Helms)

Sixth: Guidance provided the ad hoc group was clear, i.e., to make a limited response, and, in principle, only a single strike.

Seventh: The "Strike Order" was flashed from the NMCC to the Seventh Fleet, with Secretary of Defense and Chairman of the Joint Chiefs in the Center, executing the decision of the President through command channels.

Eighth: The President in his announcement by television of the second attack and the retaliatory action he had ordered made it abundantly clear that

---

<sup>18</sup>Edwin L. Dale, "Tonkin Gulf Decision: 12 Hours Led to Swift U.S. Move," New York Times, 9 Aug. 1965, p. 35.

<sup>19</sup>Ibid.

retaliation would be limited and that we "sought no wider war."<sup>20</sup>

Ninth: The US Ambassador to the UN was advised of the incident and the action being taken and requested to explain the US views and actions taken to an emergency session of the Security Council. The text of the President's television statement was cabled to all US embassies abroad with instructions to ambassadors to use it as an explanation of the US intentions.

Tenth: The "Hot Line" between Washington and Moscow was not used. No government, Communist or allied, was notified of the strike in advance.

Comparing the Tonkin Bay actions with the actions taken by the US during the Cuban Crisis certain parallels and important differences in crisis management appear. It is recognized at the outset that Russian missiles in Cuba less than 100 miles from the coast of Florida is a quite different and a far more serious threat than the Tonkin Bay incident. Nevertheless a procedural analysis provides an insight to government policy and crisis management. The first element that appears in this comparison is the notification process. Although McGeorge Bundy received the hard intelligence on the installation of Russian missiles in Cuba at 10 p.m. on 15 October 1961, he did not advise the President until about 0900 the next morning, a lapse of nearly 12 hours.<sup>21</sup> Mr. Bundy later explained this delay in a memorandum to the President, as being necessary to process additional conclusive photography, and to avoid any alarm occasioned by alerting

---

<sup>20</sup>Francis B. Stevens, "Why the Torpedo Attacks," US News and World Report, 17 Aug. 1964, p. 24.

<sup>21</sup>Theodore C. Sorensen, Kennedy, p. 673.

key members of the President's cabinet attending social affairs, nevertheless, this delay was substantial and could have been crucial. It is doubtful that a military official would have delayed such notice to the President. In contrast, the notice of the attack at Tonkin Bay was flashed immediately over the Defense Communication System to the NMCC, and the President was informed by the Secretaries of Defense and State within 45 minutes of receipt of this notice.

Turning to the topic of presidential guidance, the composition of advisory groups to the President, and the subworking groups established to work out courses of action, the following facts appear. In the Tonkin Bay incident, as in the Cuban Crisis, there was a minimum of military representation, only the Secretaries of Defense and State provided the initial facts to the President and obtained his guidance. Yet this is the most important time for provision to the President of the military view or estimate, that is, when the President is formulating his initial guidance. The "EXCOM" used to manage the Cuban Crisis and the so-called "Ad Hoc" group which planned the Tonkin Bay reprisal were primarily composed of civilian representatives of OSD, State and CIA. The Chairman of the JCS was the sole military representative. Surely the Chief of Naval Operations would have been a valuable member of the group in view of the Navy's role in the Cuban blockade and the Tonkin Bay strikes! Although President Kennedy had played a very active part in the Cuban

"EXCOM" deliberations, the "Ad Hoc" group developed their recommendations under the Chairmanship of the Deputy Secretary of Defense, and submitted them to the NSC. If we examine the subject of operational orders and control of the Armed Forces, the use of military channels was closely adhered to in the Tonkin Bay incident, in striking contrast to the White House control exercised over the Cuban reconnaissance and quarantine.

In general, Tonkin Bay demonstrated Presidential willingness to act promptly, to provide initial guidance to his planners, to await recommendations reached independently by appropriate agency representatives, to use the NSC as a board of review, to furnish policy guidance to field commanders to enable them to defend themselves, and to issue instructions through the Departments of Defense and State to carry out the military and diplomatic actions required. Unfortunately, one serious and fundamental aspect of these two examples of crisis management persists as a weakness, that is, that the President does not have the full use of military advisors, particularly at the time when he must formulate preliminary guidance. Secondly, the EXCOM and Ad Hoc control group arrangement for crisis management is a precedent, quite likely to be continued, yet in the examples cited only one military representative participated. This is wholly inadequate and disproportionate to the military matters under consideration.

In its natural and statutory way of functioning, the top-level command must strive to maintain control over its decisions.

Operating procedures serve this need. Operating procedures stem from the President and his principal Cabinet officers who, having considered the problems of national security from their vantage point, can view the military establishment of the United States as a single resource. They view national security in terms of problems concerning the balance of payments, tariff regulations, and the uncommitted nations, when reviewing top level decisions related to subjects such as the arms race, nuclear testing, and military alliances. Although decisions finally made are broad in scope they become more definitive in character as they reach each lower operational level. This is as it should be. Decisions and guidance sent to subordinate commanders must allow for initiative and exploitation of enemy weaknesses. It is true that decisions or guidance furnished to a field commander will usually restrict and confine the operations of a military force, but it is also a fact that it frees and enables the force to act in concert with an overall objective or strategy.

Although some military observers view new techniques of command, control and communications as a threat to flexibility of command, more careful consideration must conclude that these new techniques are in fact technological responses in step with an evolving change in the character of the threats which challenge US security and freedom from communism. Although military command in the field in 1965, may have few features for comparison with the free-wheeling campaigns in Europe or the Pacific in

1944, one detects a degree of commonality of the controls existing in the later stages of the Korean War, with the conditions which prevailed during the Lebanon intervention, the Cuban crisis, and the landing of our forces in the Dominican Republic. In opposition to those who see a shrinking role for the military field commander and military advisors in Washington, a strong case can be made for the assignment to them of wider and more complex responsibilities. In fact it appears that today's military leaders have a more sophisticated responsibility, which will tax their training and experience, as well as their qualities of leadership and courage.

## CHAPTER 5

### CONCLUSIONS

#### ACTIONS WHICH WOULD RESULT IN IMPROVED COMMAND AND CONTROL GOVERNMENT-WIDE

In the event of crisis management, the President turns instinctively to three agencies of government, the State and Defense Departments and the Central Intelligence Agency. His next step, is to broaden his evaluation of the facts and determination of recommended actions by referring the crisis situation to the National Security Council. This organization remains the prime statutory coordinative body charged with assisting the President with national security matters.

The major restraining influences on the current NSC functions and abilities, results from the rapidly advancing technological changes occurring in the weapons systems and political patterns of the world, which has witnessed the addition of over 50 nation states since the establishment of the NSC. The Planning Board and the Operations Coordinating Board of the NSC were abolished by President Kennedy to return rightful responsibility to appropriate federal agencies. At the same time President Kennedy appointed Mr. McGeorge Bundy as his Special Assistant for National Security Affairs. Utilizing a small staff, Mr. Bundy has been highly successful in keeping President Kennedy and later President Johnson informed, and eliminating duplication

of agency efforts with respect to national security matters. In effect, the Special Assistant to the President for National Security Affairs acts as the Chief of Staff to the NSC, and as such he is the key "operator" in the command and control picture at the presidential level.

In the author's view, we must retain the position of this Presidential Assistant and we must provide for an improved planning mechanism beginning at the Office of the President level, addressing itself to the improvement and further development of a systematic interagency assessment of day-to-day national security problems. No one questions the excellent progress made in command and control in the Defense Department's NMCC. But the question of integrated interagency planning for the future at the national level, that is determining what might be expected, the strategy the US should pursue in the short run, and at the moment of crisis, needs to be accomplished with priority, and by experienced, motivated and properly oriented government specialists. Thus, it follows logically that the National Security Council (the EXCOM, the Ad Hoc groups, etc.) as the principal instrument of presidents in controlling and responding to a crisis, must provide the fundamental impetus in the continuing development of the national command and control system. It seems logical also that the same element of the President's Office, responsible for monitoring and coordinating strategy formulation, i.e., the Office of the Special Assistant

for National Security Affairs, should monitor the planning and programmed development of a competent and modern command and control system. An interesting parallel is evident in the establishment by President Kennedy of control over the National Communications System (NCS) in the Office of Emergency Planning. The NCS joins together the facilities of the Defense Communications System and a number of other Federal communications facilities and components. The Office of the Special Assistant for National Security Affairs could, similarly, provide strong leadership in the development of a National Command and Control System. Utilizing a group representative of the agencies contributing to the membership of the NSC, it should map out an evolutionary program to accomplish the desired improvements based upon the following premises:

1. Develop an NSC approved plan for command and control with provision for periodic progress reports, to the NSC and the President.
2. Establish OSD's NMCC as the primary government operations center.
3. Establish guidance to ensure the development of identically equipped and compatible situation rooms in State, CIA and on a slightly more austere basis the White House; and provide further guidance so that. . . .
4. Maximum effective use will be obtained from automatic data processing equipment at Defense, State and CIA, utilizing techniques of language and programing to attain maximum compatibility leading to an eventual real-time system capability.

Planning guidance developed in accordance with the foregoing will ensure that there is a singleness of purpose and direction

throughout the government and priority development of an integrated national command and control system.

ACTIONS WHICH WOULD RESULT IN IMPROVED COMMAND AND CONTROL  
WITHIN DEPARTMENT OF DEFENSE

General

The modern command and control system must control military forces in terms of readiness and protection controls (alerts), as well as commitment of forces. The ability to perform these functions necessitates a degree of centralization and the establishment of operational procedures for support command posts, defensive and offensive weapons systems, and communications.

Four suggested fundamental principles for the overall development of command and control systems in OSD, and five descriptive characteristics essential to the design of such a system are listed at Annex J. In any event care should be exercised in the establishment of the overall size of the initial information data base for the system, and an early decision must be made concerning the program language to be used. It should be a language that will be compatible with superior as well as subordinate terminals.

Construction of the Data Base

Data on US forces is required, including strengths, readiness, equipment shortages, unit location and perhaps current contingency

commitments. The system need not include names, MOS, number of dependents, status of backup supplies, trainees in process, or production and projected deliveries of equipment data. This type of data must be obtained from available service subsystems files ready for use on call. Location of aircraft units and ships of the Air Force and the Navy must also be readily available. Status of reserve flight crews, ship refitting and overflight details as well as logistics and refueling data can and should be maintained and updated in service subsystems. It is emphasized that this data must be obtained, filed and collated in service and/or unified and specified command subsystems, in consonance with compatibility requirements and long range systems development objectives announced by the Office of the Joint Chiefs of Staff. Service headquarters command and control centers should also adhere to an evolutionary and decentralized program in developing data bases, and place reliance for supporting data on subsystems within their services. The importance of compatibility of machine language, standardized data processing procedures and long range systems objectives are essential to successful integrated systems development. The Army, Navy, and the Air Force have automated a large proportion of the information which they use in managing and controlling the operations of their departments. This is attested to by the large number of computers they utilize (Army-306; Navy-291; AF-612).<sup>1</sup> In the absence of standardized systems or

---

<sup>1</sup>US Bureau of the Budget, 1964 Inventory of ADPE in the Federal Government, p. 12.

"master plans" within the services, many of the individual systems designed cannot be readily compared within a department, and very few, if any, can exchange data with the other services without some intermediate and time-consuming transposition.

#### Compatibility of Machine Language

Greater attention must be focused on the use of a standard machine language in automated support of command and control systems. As previously noted, there are many hundreds of computers in the military departments, some government-owned and some rented. Thousands of hours of costly programing effort is invested in these computers to provide the necessary step-by-step instructions concerning the manipulation of the data entered into the equipment. Frequently programing costs far exceed the cost of the equipment. The equipment is generally referred to as the "hardware," while the programmed machine instructions are known as the "software." All computers include in the set of equipment a basic machine program or language which permits entry, computation and retrieval of data. This type of software is machine oriented, that is, it operates for that particular hardware system alone. There are, however, other common programing languages that can be used by programing personnel enabling them to "write" in machine language the operations the computer must perform. Some of these languages include JOVIAL, FORTRAN, ALGOL and COBOL.<sup>2</sup> Since most

---

<sup>2</sup>Ibid., p. 359.

computer manufacturers produce compilers, that is, "converters" of common program languages by machine for use of their equipment, the benefits of using common program languages are readily apparent. The use of common program languages can provide an increased interchange of data within a service and within the command and control system, without the requirement for identical or a single manufacturer's line of equipment. Further advantages will accrue in the event of replacement of equipment with more advanced machines or equipment from a different manufacturer. At present all of the services are using common program languages to some extent. However, no single language is prescribed for command and control within the Defense Department or for that matter within any of the services. Yet a standard machine language for use in command and control systems would provide tremendous impetus to the overall goal of an integrated and responsive defense-wide system.

#### Military Advice to the President

Some solution must be found to the problems described in this paper concerning the lack of adequate opportunity for military advisers to express their personal views to the President. This is a particularly serious problem during those early minutes or hours when the President must formulate his initial guidance in response to a crisis. Regardless of the personal competency of the civilian leadership of the Department of Defense, their tenure in office, or their close relationship with the Joint Chiefs of

Staff, no one can reasonably expect them to be as wholly competent in their evaluation of a crisis, as the sum of their own views and those of appropriate military advisers. The continuation of the procedures followed in the past could conceivably result in the President selecting a less than optimum course of action or unnecessarily sacrificing response time.

#### ORGANIZATIONAL AND MANAGEMENT IMPROVEMENT NEEDED

The preceding sections of this Chapter have described actions that can be taken government-wide, and within Department of Defense to improve the national command and control system. These suggestions center on the following points: first, that the fundamental step in developing a responsive command and control system is to postulate its requirements based upon study and analysis of available US national strategy and policy; second, to design the system to encourage maximum interchange of data between government agencies; third, to promulgate interagency short and long range command and control systems development plans, consistent with the two preceding points; and fourth, to provide for frequent review of actual progress of systems development efforts government-wide.

With these requirements in mind, an interlocking arrangement of policy guidance and advisory groups is suggested as indicated in Annex K. This arrangement would provide the proper emphasis and direction to US efforts in developing a viable national command and control system. The primary organizational grouping

is the National Security Council for the announcement of basic national strategy and policy. The Special Assistant for National Security Affairs, a member of the National Security Council, is indicated as the Chairman of a suggested "Interagency Advisory Group for Command and Control." This group is to be composed of deputy-level representatives from State, Defense, CIA and the Office of Emergency Planning. It will be responsible for translating broad national strategy requirements into time-phased, interagency tasks to be accomplished in the evolutionary design and development of an improved national command and control system. Although each of the federal agencies represented on the Interagency Advisory Group would wish to designate an internal supporting organization for their work in this area, only a Department of Defense element is indicated in Annex K. The suggested title of this organization is the "Defense Department Command and Control Policy Guidance Group." The Chairman of this group is the Deputy DDR&E, presently assigned overall supervision of command and control as a subject area within the Department of Defense. Other members of this group would include the Chief, JCCRG, the Deputy Director (Operations) for NMCS, and Flag Officer command and control representatives from each of the services.

The Interagency Advisory Group will play an important role in the establishment of basic systems requirements. In addition, this group will emphasize the need for interchange of data

between agencies and establish basic policy with respect to compatibility of systems. Not the least of its functions will be to review the progress of the federal government in developing the command and control system. The separate members of the OSD Command and Control Policy Guidance Group, as defined in this paper, are already working under a charter outlined in OSD Directive S-5100.30. However, the framework provided in this suggested improved organizational and management arrangement strengthens unity of efforts within the Defense Department, and will provide for a more meaningful government-wide command and control systems development program.

  
R. G. FAZAKERLEY  
Lt Col FC

## BIBLIOGRAPHY

1. Alsop, Stewart, and Bartlett, Charles. "In Time of Crisis." The Saturday Evening Post, Vol. 235, 8 Dec. 1962, pp. 15-20.
2. Bestic, John B. "Development of a National Military Command System." Signal, Vol. 17, Mar. 1963, pp. 10-11.
3. Bestic, John B. "The National Military Command System." Signal, Vol. 18, Sep. 1963, pp. 17-18.
4. Butz, J. S. "White House Command Post-1966." Air Force and Space Digest, Vol. 47, Apr. 1964, pp. 73-81.
5. "Command and Control Systems in the USA." Interavia, Vol. 19, Jun. 1964, pp. 849-864.
6. "Command and Control-The Issue Briefly." Armed Forces Management, Vol. 11, Jul. 1965, p. 4.
7. Connett, William B. Jr. "Operations Center--Locus of Crisis Management." Department of State News Letter, Aug. 1964, pp. 16-18.
8. Dale, Edwin L. "Tonkin Gulf Decision: 12 Hours Led to Swift U.S. Move." New York Times, 9 Aug. 1965, p. 35.
9. Dean, Arthur H. "US Working Paper on Reduction of the Risk of War. . . ." Department of State Bulletin, Vol. 47, 31 Dec. 1962, pp. 1019-1025.
10. Di Silvio, Armond. Personal interview on the planning and development of the National Military Command Center. Washington: 17 Nov. 1965.
11. Donovan, Robert. Personal interview on the development of the automatic data processing center, i.e., the National Military Command System Support Center (NMCSSC) data base, and the Joint Operational Reporting System (JOPREP). Washington: 17 Nov. 1965.
12. Eccles, Henry E. Military Concepts and Philosophy. New Brunswick, New Jersey: Rutgers University Press, 1965. (U21.2 E25)  
  
(A very excellent analysis of the concept of conflict, strategy and command requirements in the current world environment, together with their proper relationship to intelligence, arms control, decision-making, communications and morale of the military professional. An important

reference setting forth in comprehensive terms the evolution of the military strategy in terms of technological advances and political change in world affairs.)

13. Eliot, George Fielding. "The Conflict in the Pentagon." American Legion Magazine, Vol. 75, Nov. 1963, pp. 8; 9; 41.
14. Fazio, James. Personal interview on the planning and development of the State Department Operations Center and crisis management experiences. 1961-1965. Washington: 17 Nov. 1965.
15. Fergusson, Charles M. Strategic Thinking and Strategic Studies: Prerequisites for Sound Strategy. Thesis. Carlisle Barracks: US Army War College, 8 Mar. 1963. (IS--1962-1963)  
  
(This thesis describes the need for dynamic and professional strategy on the part of the United States. It analyzes the changes in the world environment since the first world war and emphasizes the leadership role of the United States with concomitant worldwide responsibilities.)
16. "Flexible Machine Language for Commander-Computer Chats May Be Key to Flexible C&C." Armed Forces Management, Vol. 11, Jul. 1965, pp. 91-95.
17. General Electric Company. Strategic Control; Its Essentiality and Feasibility (U). Special Project 131. Santa Barbara, California: May 1961. CONFIDENTIAL (O GE TEMPO SP 131)
18. General Electric Company. The Structure and Operation of Top-Level Military Command, by Robert W. Callan and W. T. Kinsella. Research Memorandum RM 62 TMP-55. Santa Barbara, California: Sep. 1963. (H35 G4 62-55)  
  
(This memorandum provides a thoughtful analysis of the requirements of an effective command and control information system to assist military commanders in determining the appropriate course of action to be followed and in communicating the commanders decision-guidance to subordinate echelons. Emphasis is placed on the proposition that decisions are made on the basis of available information and that the ideal command and control system must provide a continuous up-dated flow of carefully selected data.)
19. "Getting the Fast Word From the Farthest Front." Business Week, No. 1837, 14 Nov. 1964, pp. 192-198.

20. James, Joyce B. The National Communications System: Civilian or Military Management. Thesis. Carlisle Barracks: US Army War College, 3 May 1965. (AWC IS 64/65)
21. Kaufman, William W. The McNamara Strategy. New York: Harper and Row, 1964. (UA23 K281)
22. Kennedy, John F. Memorandum for Heads of Executive Departments and Agencies. Subject, "Responsibilities of Chiefs of American Diplomatic Missions." Federal Register, Vol. 26, 17 Nov. 1961, p. 10749.
23. Kintner, William R. The Politicalization of Strategy in National Security: Political, Military and Economic Strategies in the Decade Ahead. New York: Frederick A. Praeger, 1963.
24. Levy, L. W., and Roche, J. P. The Presidency. New York and Burlingame: Harcourt, Brace and World Inc., 1964. (JK511 R6)

(This book contains basic source documentation relating to the powers, tasks and roles of the presidency. Particular emphasis is given to the field of foreign policy. Yet the importance and perplexity of domestic issues are also included. Beginning with a description of the concept of the office of President held by Washington through Lincoln it discusses in greater detail the modern day contradictions of public opinion and the complexity of problem solving in the White House.)

25. Millis, Walter, and others. Arms and the State: Civil Military Elements in National Policy. New York: Twentieth Century Fund, 1958. (JK268 M5)
26. Norris, John G. "Gen Wheeler Warns On Over Controlling." Washington Post, 16 Sep. 1965, p. F1.
27. Osgood, Robert E. Limited War, The Challenge to American Strategy. Chicago: The University of Chicago Press, 1957. (UA23 08)
28. RAND Corporation. National Strategy Implications for Command and Control, by Roger E. Levien. Memorandum RM-3454-PR. Santa Monica: Feb. 1963. (RAND RM-3454-PR)

(This memorandum discusses the various national strategies that confront the Chief Executive and characteristics foreseen in a command and control system which must be capable of responding to advancing peacetime interests, preventing war of improving the outcome of unavoidable war.)

29. Sampson, George P. "Washington and Moscow Linked via 'Hot Line.'" Signal, Vol. 18, Dec. 1963, pp. 8-11.

30. Sorensen, Theodore C. Decision-Making in the White House. New York and London: Columbia University Press, 1963. (JK518 S6)

(The author provides an unusual insight into the problems confronting the President in a modern world possessing nuclear weapons, and describes the process of decision-making as he observed it at first hand. His examples include not only problems having international implications but domestic ones as well. An excellent source of material concerning the decision-making process of the Chief Executive and the forces involved therein.)

31. Sorensen, Theodore C. Kennedy. New York: Harper and Row, 1965.

(A most perspective description of the Presidency and the Cabinet in action during the Cuban crisis. Written by one of the participants in all of the formal and most of the informal discussions which took place in the White House during that eventful week in October 1962, when the US was faced with the installation of Soviet missiles in Cuba less than 100 miles from the coast of Florida. This book is not only factual and quite detailed but makes public the attitudes, policy and philosophy of many principle officers of the government at that time.)

32. "South Viet Nam--A New Kind of War." Time, Vol. 86, Oct. 22, 1965, pp. 28-39.

33. Stanford Research Institute. Command and Control Communications--An Introduction to Problems of Analysis, by Donn E. Seeley. Research Memorandum, SRI Project No. IV-2841. Menlo Park, California: Jan. 1961. (SRI CCC IPA)

34. Stanford Research Institute. The Value of Civil Policy Guidance to Military Command, Control and Communications, by Terence G. Jackson, Jr. Operations Analysis Department Research Memorandum 117. Menlo Park, California: Jun. 1963. (SRI OAD RM117)

35. Stevens, Francis B. "Why the Torpedo Attacks." US News and World Report, Vol. 57, 17 Aug. 1964, p. 24.

36. "The Search for Effective Command and Control." Armed Forces Management, Vol. 8, Jul. 1962, pp. 19-21.

37. Tibbets, P. W. "About Our Working National Military Command System." Armed Forces Management, Vol. 10, Jul. 1964, pp. 25-26.
38. Tourtellot, Arthur Bernon. The Presidents on the Presidency. Garden City, New York: Doubleday and Co., Inc., 1964. (JK511 T6)

(The author has provided in this book a rare recitation of the thoughts of US presidents on various major aspects of the Office of Presidency. To name a few: as Administrator, as Reformer, Privileges of the Presidency, etc. Most useful in connection with this paper was the chapter on "The President as Commander-In-Chief.)

39. US Bureau of the Budget. 1964 Inventory of Automatic Data Processing (ADP Equipment in the Federal Government). Prepared for the Sub Committee on Census and Government Statistics of the Committee on Post Office and Civil Service, House of Representatives. Committee Print. 88th Congress, 2nd Session. Washington: US GPO, Jul. 1964. (JK468 A8A3 1964)
40. US Congress, Senate. Committee on Government Operations. Conduct of National Security Policy, Selected Readings. 89th Congress, 1st Session. Washington: US GPO, 1965. (JK421 A48 1965a)
41. US Congress. Senate. Committee on Government Operations. Organizing for National Security, Selected Readings. 86th Congress, 2nd Session. Washington: US GPO 1960. (JK421 A48 1960a)

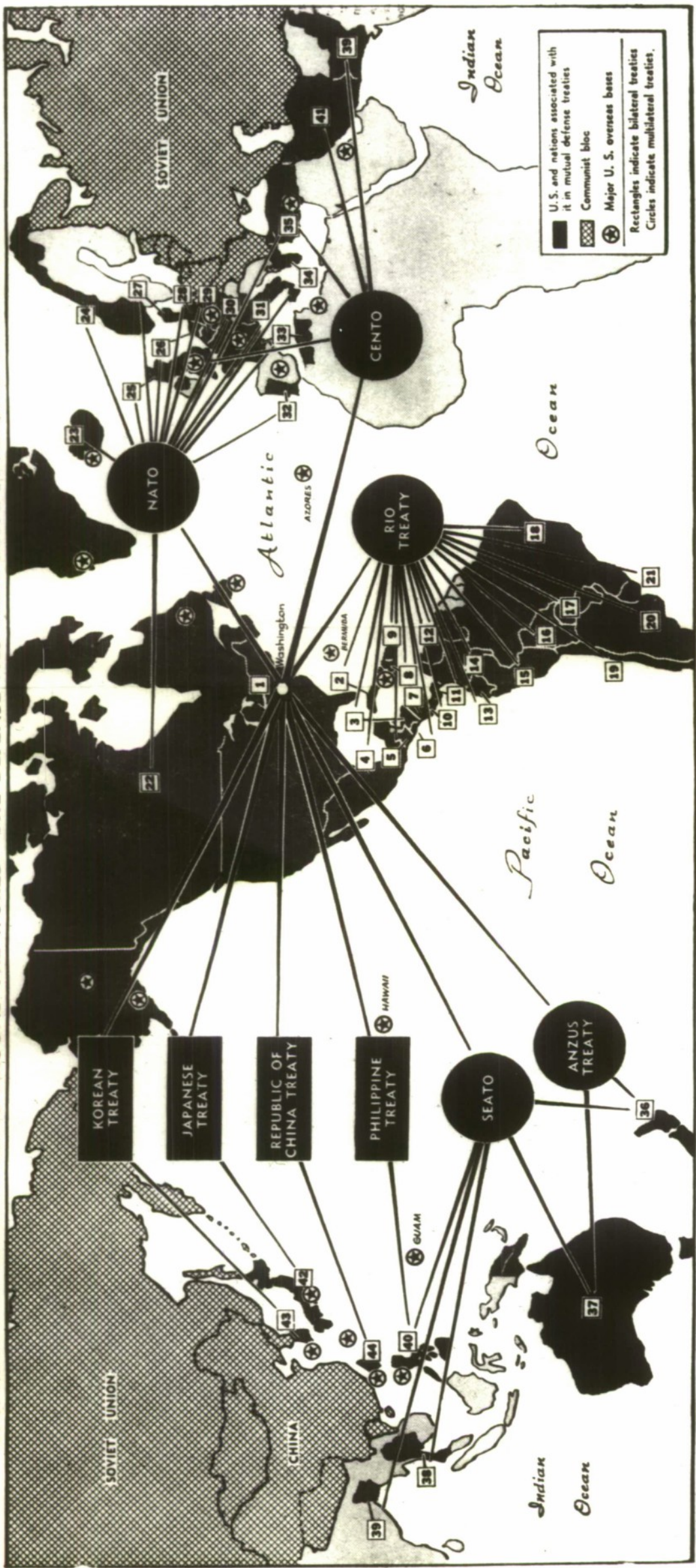
(A collection of selected materials which provides in convenient form official documents relating to the National Security Council and in addition articles by past and present officials of the National Security Council on policy making on national security matters. Of particular value is an article by W. R. Kintner concerning the efficacy of government machinery to support presidential decision-making with reference to national security matters.)

42. US Department of Defense, Directive No. S5100.30, Concept of Operations of the World-Wide Military Command and Control System (U). Washington: 16 Oct. 1962. SECRET
43. US Department of State. Operations Center. Guidelines for Task Forces. Washington: nd.

44. US Department of State and Defense. Memorandum of Agreement on the Exchange of Communications, 3 Apr. 1964.
45. US Department of the Army. Field Manual 100-25 (Draft Copy). The Army and National Security. Carlisle Barracks, Pennsylvania: Mar. 1965.
- (This draft field manual, prepared by the US Army Combat Developments Command Institute of Advanced Studies, describes the organization and functions of all agencies of the Defense Department from the standpoint of waging war or maintaining peace and in addition includes related organization and functions of the Office of the President and the Department of State where there are close working relationships to national security.)
46. US Government Organizational Manual 1965-66, Office of the Federal Register. National Archives and Records Services, GSA, p. 66.
47. US Industrial College of the Armed Forces. Organization for National Security, compiled by H. B. Yoskpe and Stanley L. Falk. Washington: US GPO, 1964. (ICAF ENS v. 3)
- (This text, utilized in conjunction with the ICAF curriculum, traces the foundations of national defense organization, carefully relating the interaction and responsibilities of the military with the political aspects of national security. It provides an excellent synthesis of the subject as of the period ending in 1962.)
48. US Joint Chiefs of Staff. Dictionary of United States Military Terms for Joint Usage. JCS Pub. 1. Washington: Dec. 1964.
49. US Joint Chiefs of Staff. Office of Director for Operations, J-3. National Military Command Center Operating Procedure 6-2. Washington: 8 Nov. 1965.
50. US Joint Chiefs of Staff, Unified Action Armed Forces (UNAAF). JCS Pub. 2, with changes 3-8 added. Washington: Nov. 1959.
51. US Library of Congress. Legislative Reference Service. United States Defense Policies in 1964. A report prepared at the request of the Honorable Melvin Price, 89th Congress, 1st Session. House Document 285. Washington: US GPO, 1965.
52. Wagner, J. H. "NMCS: The Command Backup to Counterforce." Armed Forces Management, Vol. 9, Jul. 1963, pp. 23-25.

53. "Where the Computer Fits in Command and Control." Armed Forces Management, Vol. 8, Jul. 1962, pp. 22-24.
54. Zukert, E. M. "Command and Control - Firm Hand and All-Seeing Eye." Air Force/Space Digest, Vol. 48, Apr. 1965, pp. 64; 67; 68; 71.

**U. S. MILITARY COMMITMENTS AROUND THE WORLD - THE DEFENSE TIES THAT HAVE DEVELOPED SINCE WORLD WAR II**



**RIO TREATY**

A treaty signed in August, 1947, under which the signatory nations pledge themselves, in the event of aggression against any one of them, to provide assistance to that nation on request. Members are:

- 1 UNITED STATES
- 2 CUBA
- 3 HONDURAS
- 4 MEXICO
- 5 GUATEMALA
- 6 EL SALVADOR
- 7 NICARAGUA
- 8 HAITI
- 9 DOMINICAN REP.
- 10 COSTA RICA
- 11 PANAMA
- 12 VENEZUELA
- 13 ECUADOR
- 14 COLOMBIA
- 15 PERU
- 16 BOLIVIA
- 17 PARAGUAY
- 18 BRAZIL
- 19 CHILE
- 20 ARGENTINA
- 21 URUGUAY

**NATO**

A treaty signed in April, 1949, set up the North Atlantic Treaty Organization under which the members agree to regard an attack on one as an attack on all. Members are:

- 1 UNITED STATES
- 22 CANADA
- 23 ICELAND
- 24 NORWAY
- 25 UNITED KINGDOM
- 26 NETHERLANDS
- 27 DENMARK
- 28 W. GERMANY
- 29 BELGIUM
- 30 LUXEMBOURG
- 31 ITALY
- 32 PORTUGAL
- 33 FRANCE
- 34 GREECE
- 35 TURKEY

**ANZUS TREATY**

A treaty signed in September, 1951, under which members acknowledge that an attack in the Pacific against any will involve all, and agree to "act to meet the common danger." Members are:

- 1 UNITED STATES
- 36 NEW ZEALAND
- 37 AUSTRALIA

**SEATO**

A treaty signed at Manila in September, 1954, that set up the Southeast Asia Treaty Organization covering the "general area of Southeast Asia" and the western Pacific. In case of aggression its members are to "consult immediately in order to agree to measures which should be taken for common defense." Members are:

- 1 UNITED STATES
- 25 UNITED KINGDOM
- 33 FRANCE
- 36 NEW ZEALAND
- 37 AUSTRALIA
- 38 THAILAND
- 39 PAKISTAN
- 40 PHILIPPINES

**CENTO**

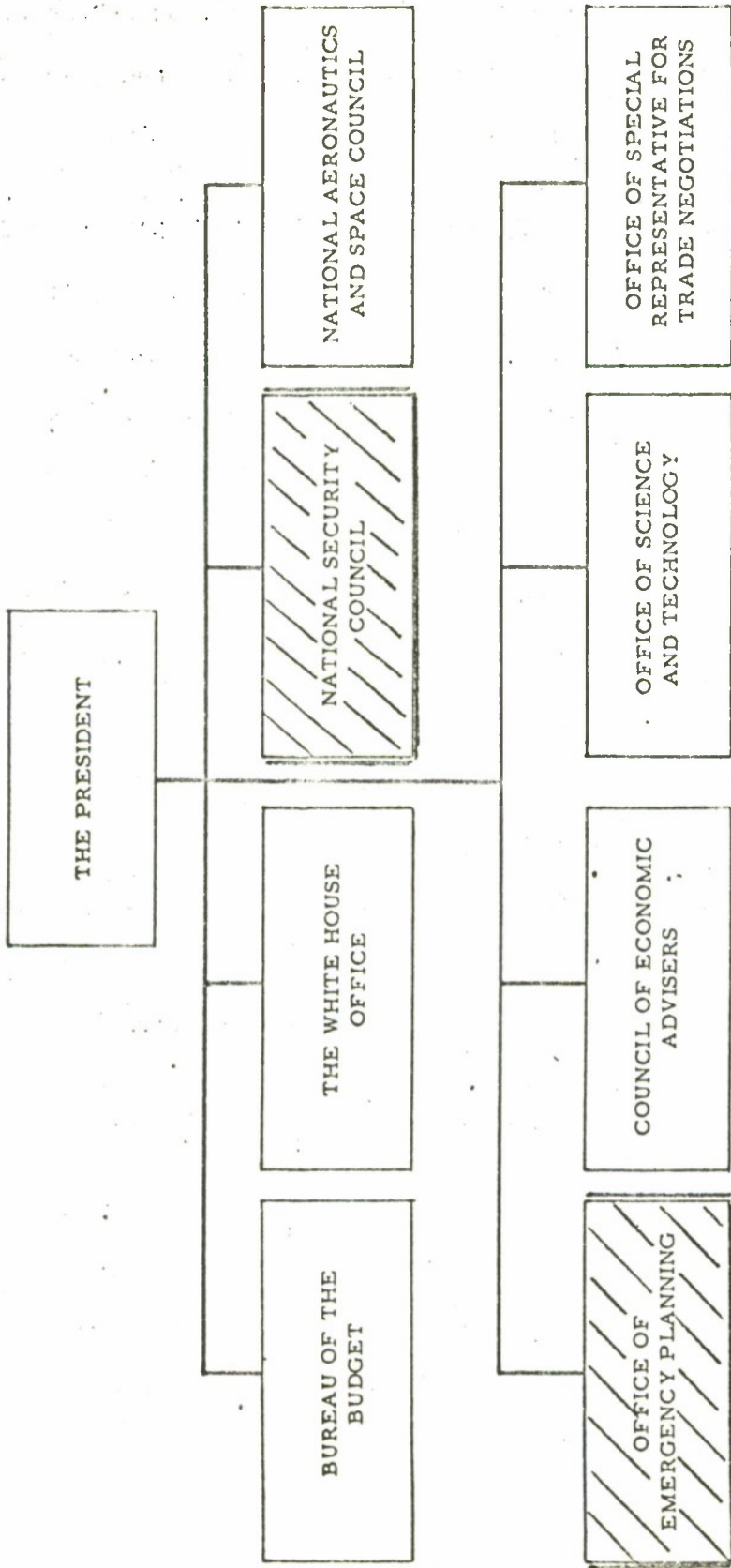
The Central Treaty Organization is an outgrowth of the Baghdad Pact which set up the Middle East Treaty Organization. CENTO was formed in August, 1959, after Iraq, one of the five original members of M.E.T.O. withdrew. The U. S. is not directly a member of CENTO but has pledged to cooperate in mutual defense. Members are:

- 25 UNITED KINGDOM
- 35 TURKEY
- 38 PAKISTAN
- 41 IRAN

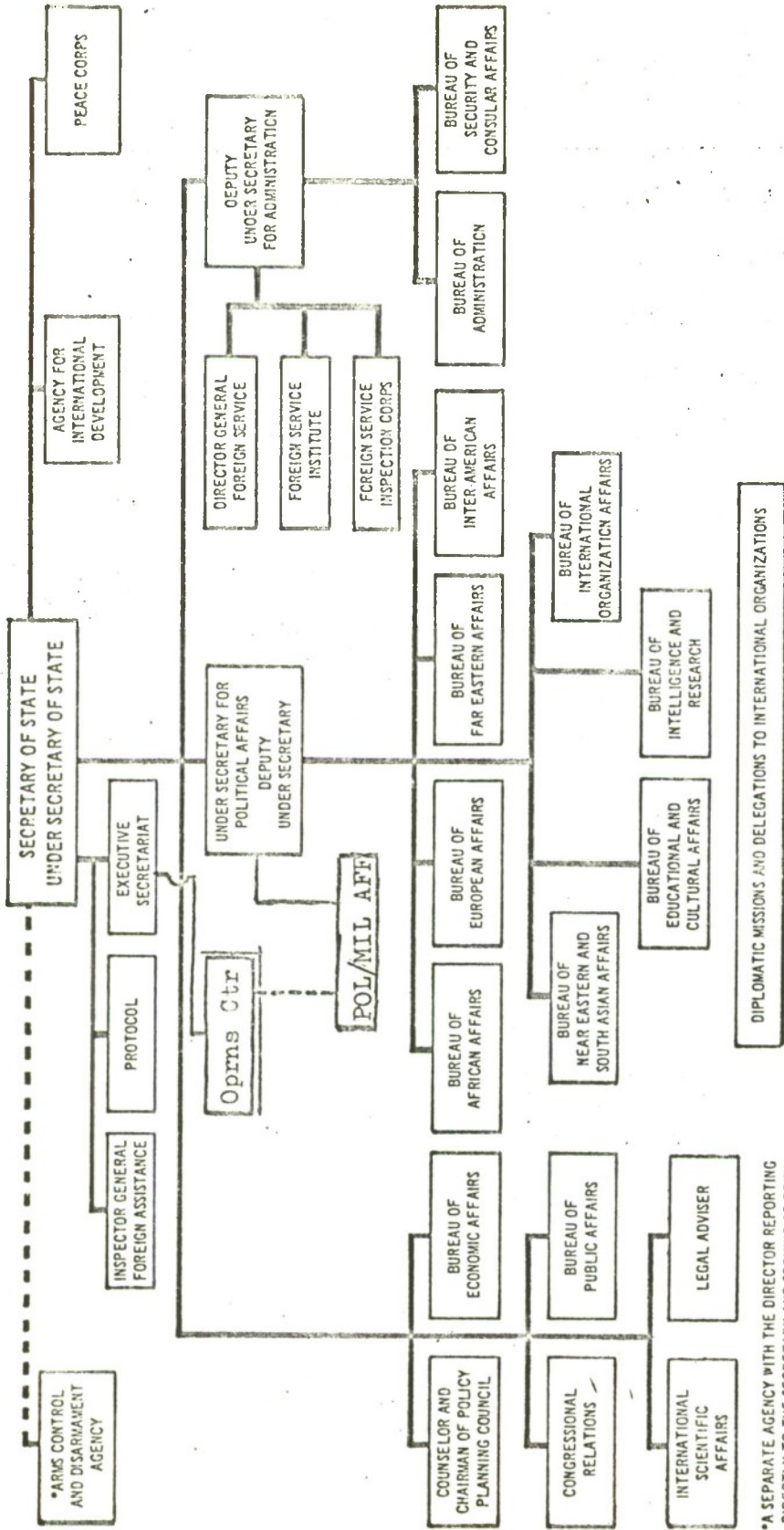
**BILATERAL TREATIES**

These are treaties signed by the United States with individual nations. They provide for mutual assistance in case of an attack.

- PHILIPPINE TREATY
- 1 UNITED STATES
- 40 PHILIPPINES
- JAPANESE TREATY
- 1 UNITED STATES
- 43 JAPAN
- KOREAN TREATY
- 1 UNITED STATES
- 43 S. KOREA
- REP. OF CHINA TREATY
- 1 UNITED STATES
- 44 TAIWAN



EXECUTIVE OFFICE OF THE PRESIDENT

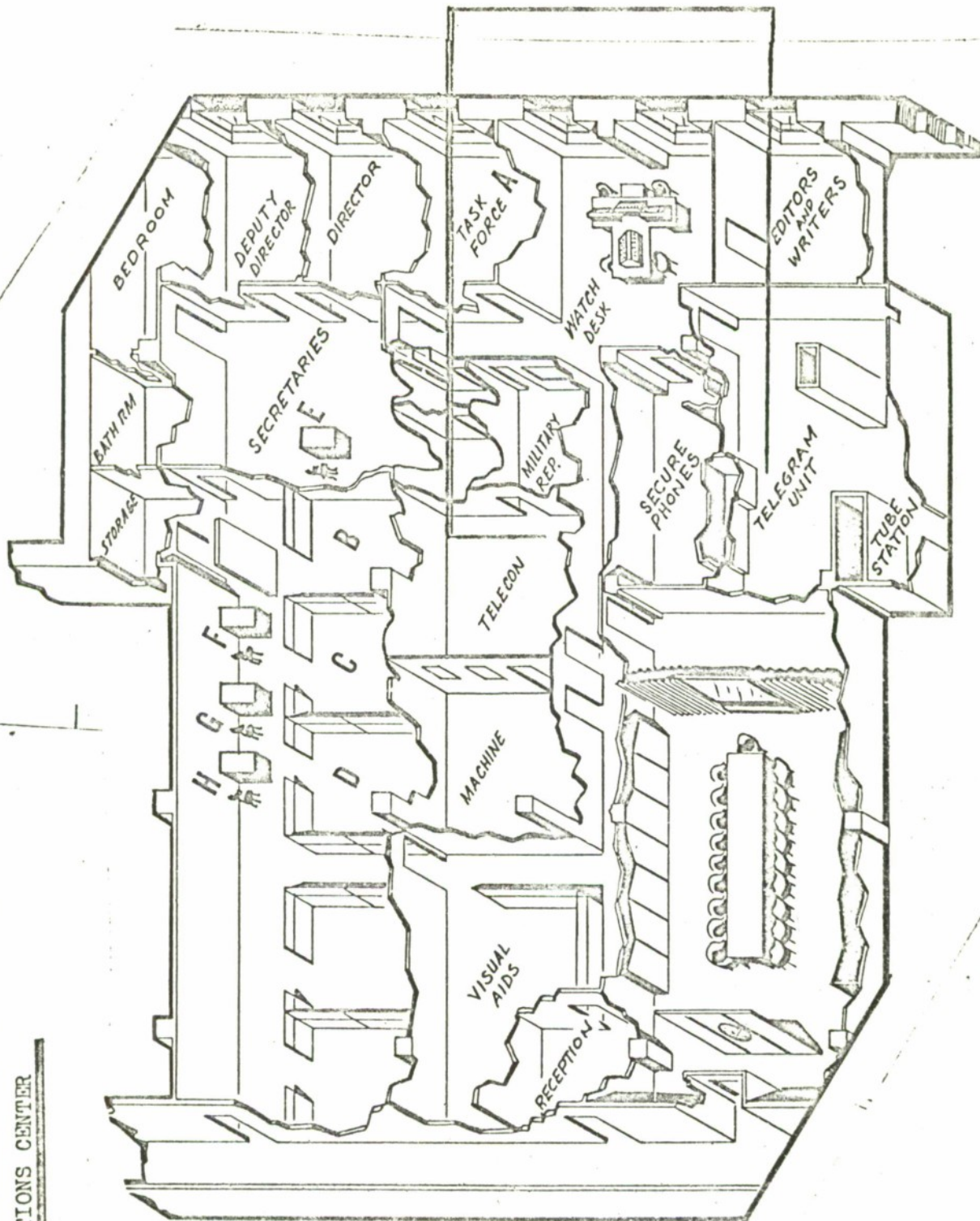


ORGANIZATION OF THE DEPARTMENT OF STATE

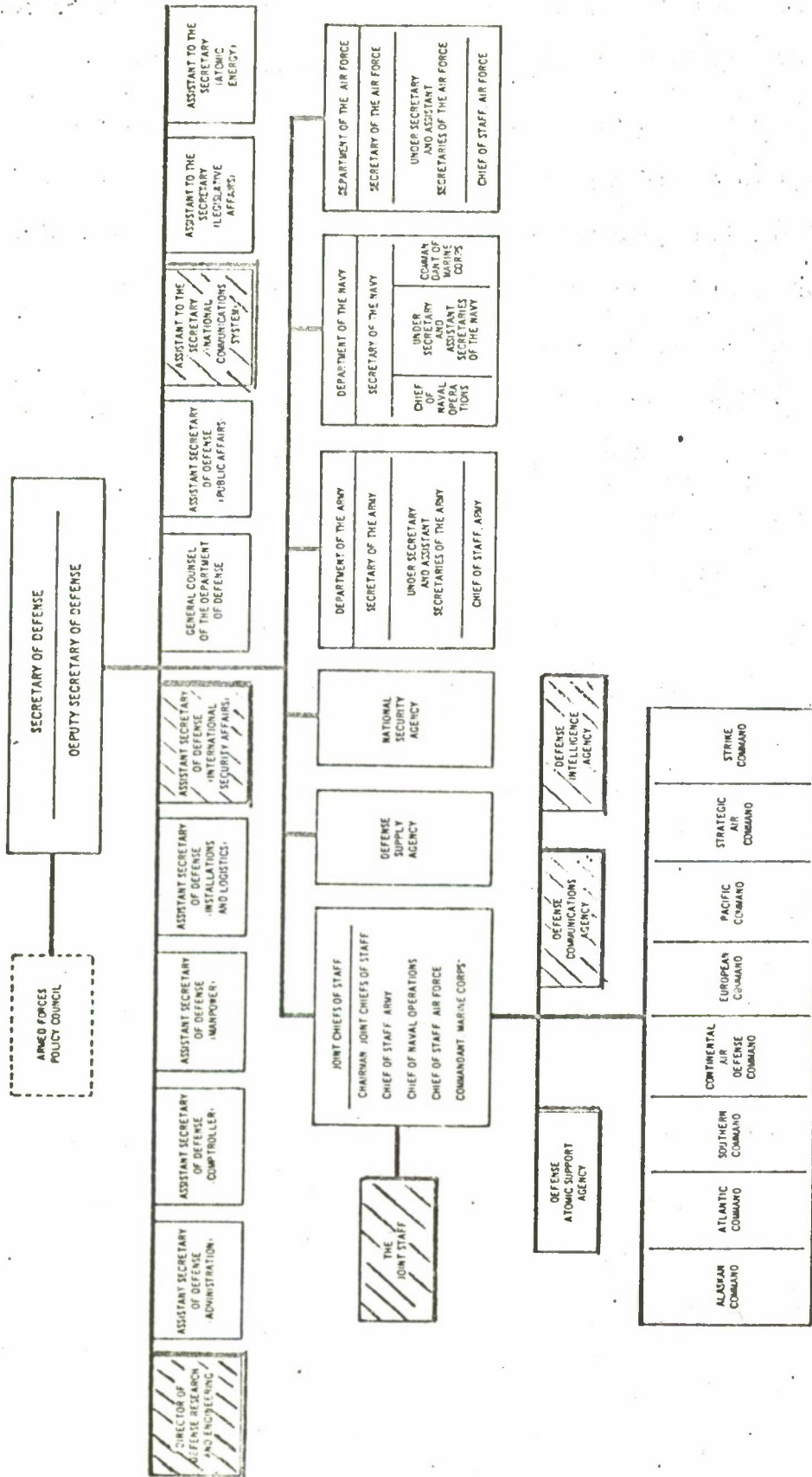
\*A SEPARATE AGENCY WITH THE DIRECTOR REPORTING DIRECTLY TO THE SECRETARY AND SERVING AS PRINCIPAL ADVISER TO THE SECRETARY AND THE PRESIDENT ON ARMS CONTROL AND DISARMAMENT

FLOOR PLAN STATE DEPARTMENT

OPERATIONS CENTER



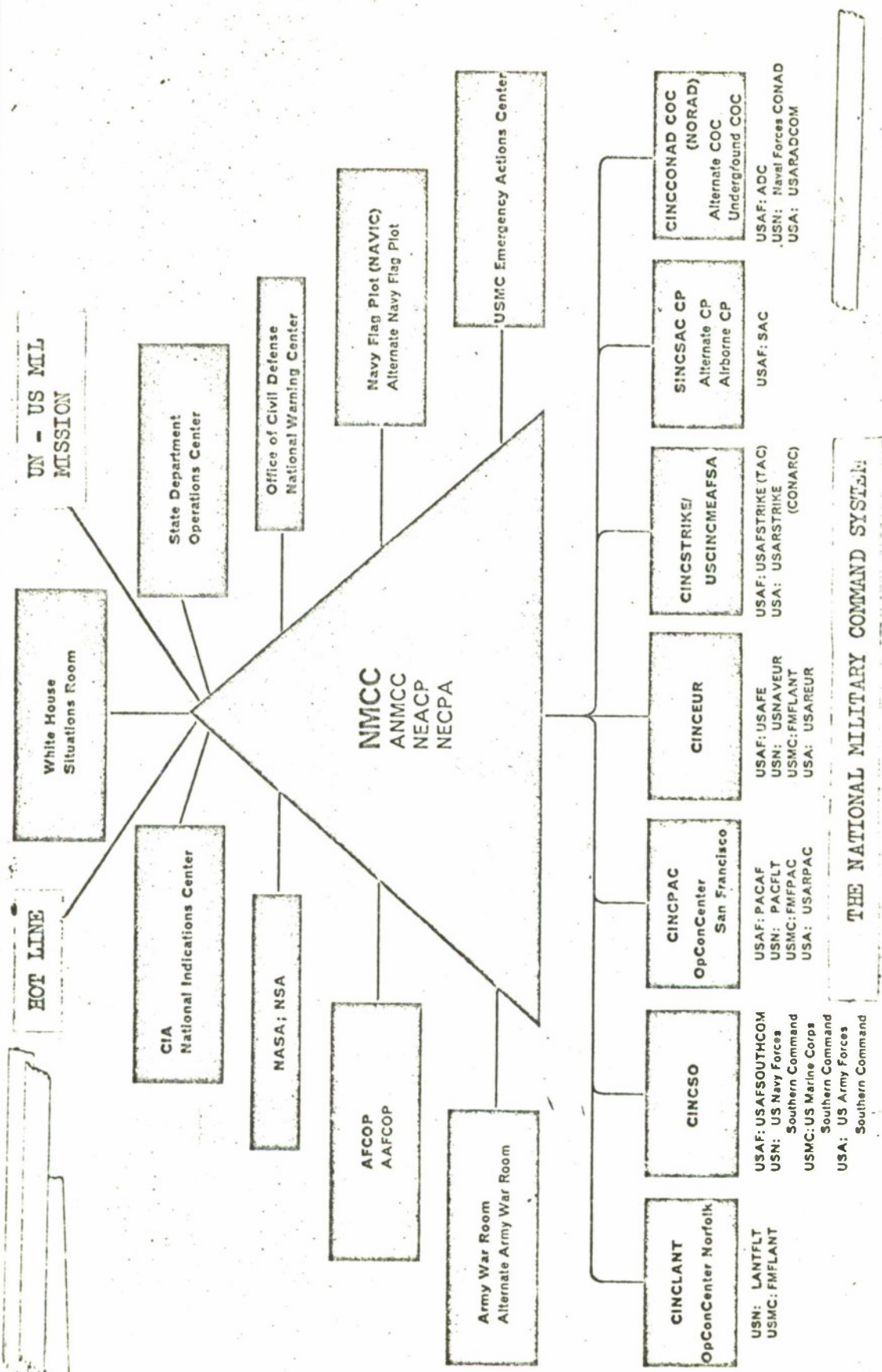
ANNEX D.



DEPARTMENT OF DEFENSE

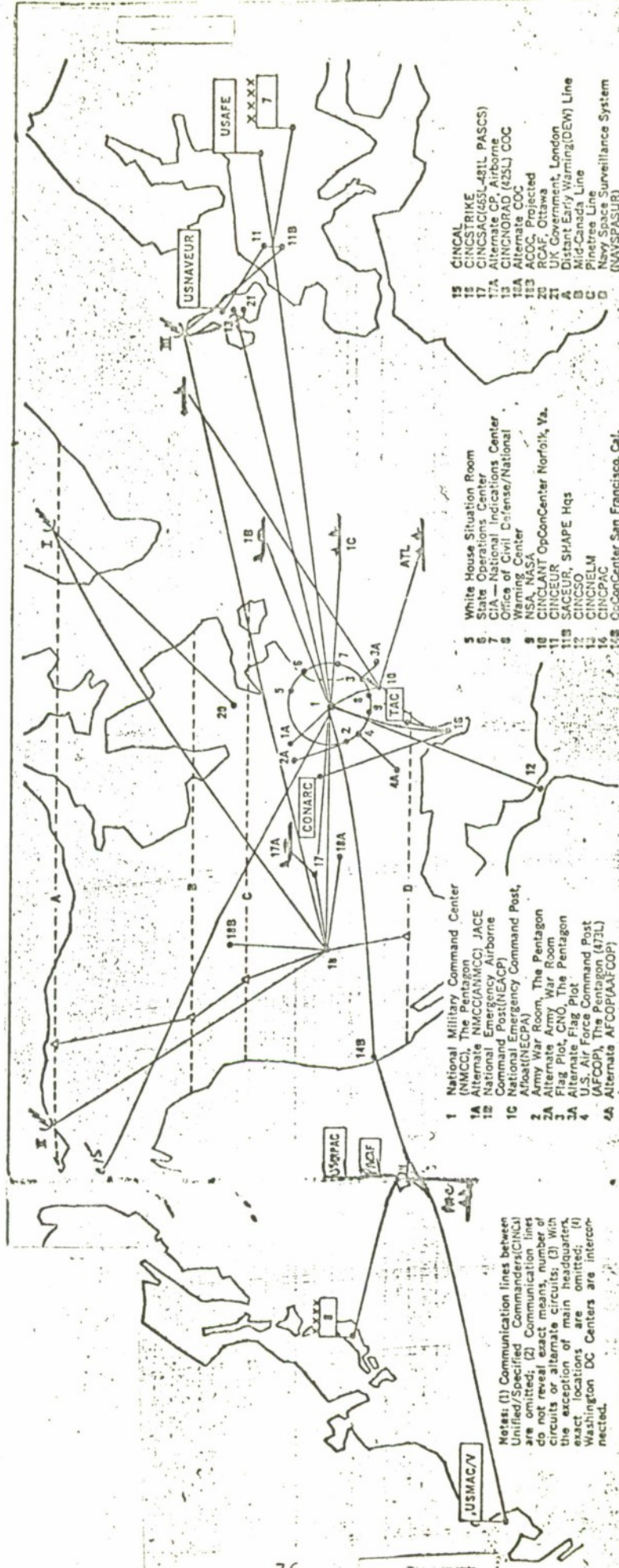
\* Has equal status with the other members of the JCS, who all have direct concern to the Marine Corps as under consideration





THE NATIONAL MILITARY COMMAND SYSTEM

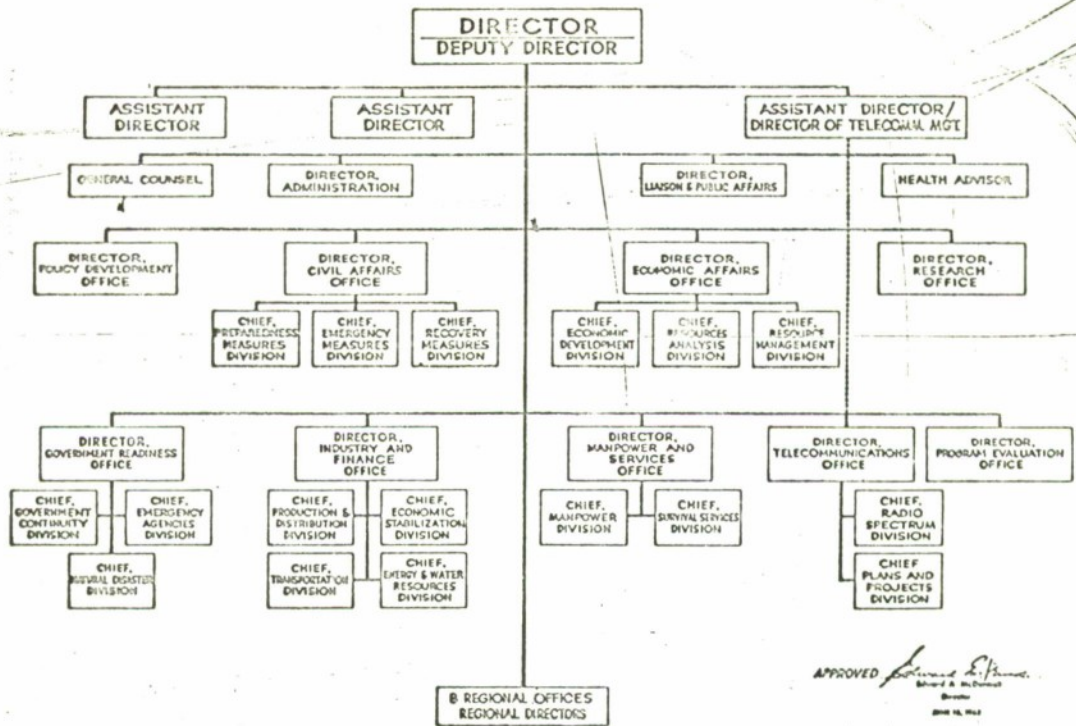
# World-Wide Military Command & Control System



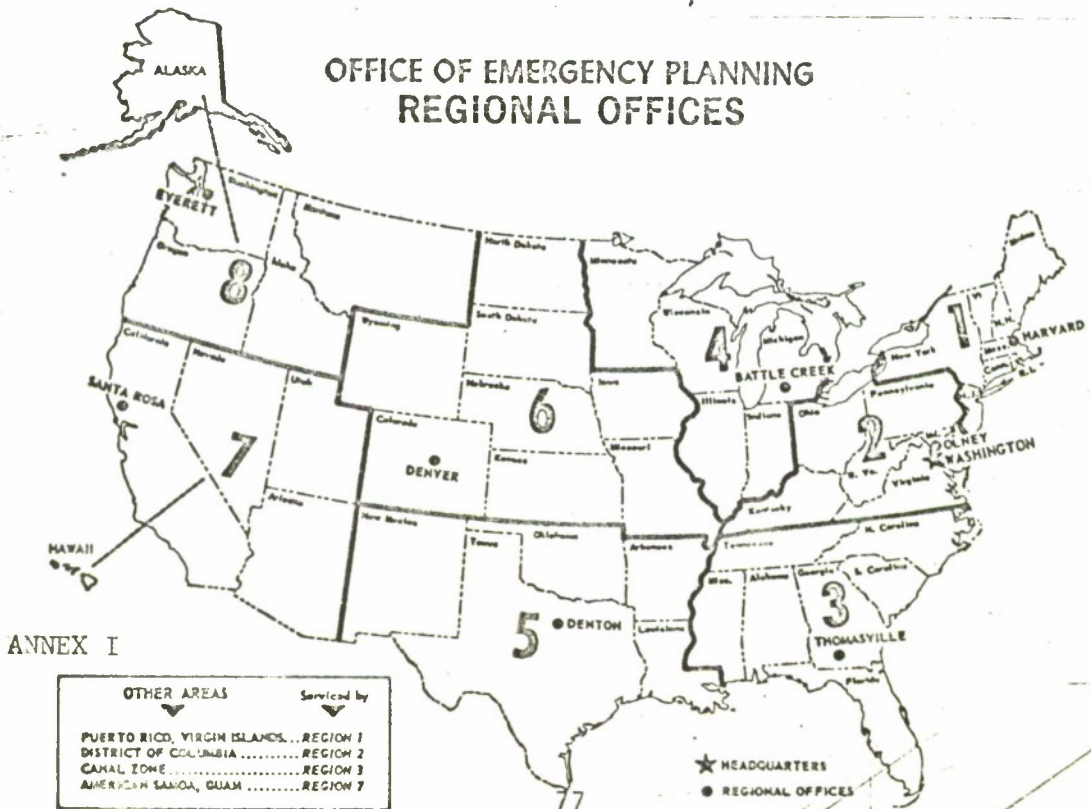
Notes: (1) Communication lines between Unified/Specified Commanders(CINCLANT, CINCPACFLT, etc.) are omitted; (2) Communication lines do not reveal exact means, number of circuits or alternate circuits; (3) With the exception of main headquarters, exact locations are omitted; (4) Washington DC Centers are interconnected.

- 1 National Military Command Center (NMCC), The Pentagon
- 1A Alternate NMCC(NMCC) JACE
- 1B National Emergency Airborne Command Post(NEACP)
- 1C National Emergency Command Post, Afloat(NECPA)
- 2 Army War Room, The Pentagon
- 2A Alternate Army War Room
- 3 Flag Plot, CNO, The Pentagon
- 3A Alternate Flag Plot
- 4 JAFOP, The Pentagon (431L)
- 4A Alternate AFOP(AFOP)
- 5 White House Situation Room
- 6 State Operations Center
- 7 CIA National Indications Center
- 8 Office of Civil Defense/National Warning Center
- 9 NSA, NASA
- 10 CINCLANT OpConCenter Norfolk, Va.
- 11 SACEUR, SHAPE Hqs
- 11A SACEUR, SHAPE Hqs
- 12 CINCSO
- 13 CINCNELM
- 14 CINCPAC
- 15 OpConCenter San Francisco, Cal.
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60
- 61
- 62
- 63
- 64
- 65
- 66
- 67
- 68
- 69
- 70
- 71
- 72
- 73
- 74
- 75
- 76
- 77
- 78
- 79
- 80
- 81
- 82
- 83
- 84
- 85
- 86
- 87
- 88
- 89
- 90
- 91
- 92
- 93
- 94
- 95
- 96
- 97
- 98
- 99
- 100

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF EMERGENCY PLANNING



OFFICE OF EMERGENCY PLANNING  
REGIONAL OFFICES



BASIC PRINCIPLES AND CHARACTERISTICS FOR SOUND  
COMMAND AND CONTROL SYSTEMS DEVELOPMENT IN OSD

DEVELOPMENTAL PRINCIPLES

- First: An understanding of the role and the relationship of the military command and control system to national requirements. This is true not only for the NMCC but applies to the military departments in their problems of interface with the NMCC and each other.
- Second: Proper staffing mix of military personnel, government civilians and contract personnel (preferably 1:1:1), in the systems design effort, with close liaison provided up and down the organizational hierarchy to ensure effective coordination.
- Third: An evolutionary systems development approach, (characterized by never lifting one foot from the ground until the other is firmly planted); constant recognition of the subservience of the system to the commander it will serve, recognition of the benefit of using existing hardware to test programs and system segments rather than designing militarized equipment.
- Fourth: Timely and adequate funding program action.

SYSTEMS CHARACTERISTICS

- First: Complete and current status of US and Allied operational plans, including disposition, readiness posture, and force generation factors.
- Second: Complete and current status of neutral, and potential hostile operational forces to include disposition, readiness posture, capability and vulnerability.
- Third: Complete and current status of US weapons, including numbers, types and locations.
- Fourth: Accurate and current evaluations of worldwide politico-military situations as they influence or may influence US response.
- Fifth: Survivability under extreme conditions.

ANNEX J

SUGGESTED ORGANIZATION FOR IMPROVED COMMAND AND  
CONTROL SYSTEMS DEVELOPMENT

I. Development of US National Strategy/Policies.

NATIONAL SECURITY COUNCIL

Secretary of State (chairman)  
Secretary of Defense  
Sp Asst for National Security Affairs  
Director of Central Intelligence  
Director of the Office of Emergency Planning  
Chairman of Joint Chiefs of Staff

II. Provide Interagency Guidance, and Review Progress of  
Command and Control Systems Development.

INTERAGENCY ADVISORY GROUP FOR COMMAND AND  
CONTROL

Sp Asst for National Security Affairs (chairman)  
Dep Under Secretary for Political/Mil Affairs  
Dep Secretary of Defense (DDRE)  
Dep Director Central Intelligence Agency  
Asst Director/Director of Tele Communications  
Management

III. Provide Interdepartmental Guidance, and Review Progress  
of Command and Control Systems Development.

DEFENSE DEPARTMENT COMMAND AND CONTROL POLICY GUIDANCE  
GROUP

Dep Secretary of Defense (DDR&E) (chairman)  
Chief, Joint Command and Control Requirements Group  
Deputy Director (Operations) for NMCS  
Flag Officer Service Representatives for Command  
and Control