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EXPERT OPINION ON
THE DEPARTMENT OF DEFENSE
BASE CLOSURE/REALIGNMENT POLICY AND
PROCESS: AN ASSESSMENT OF THE
FOUR MILITARY VALUE CRITERIA

THESIS

Douglas P. Gorgoni, Captain, USAF

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BASE CLOSURE/REALIGNMENT POLICY AND PROCESS:
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MILITARY VALUE CRITERIA

THESIS

Presented to the Faculty of the School of Systems and
Logistics of the Air Force Institute of Technology
Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

Douglas P. Gorgoni, B.S.
Captain, USAF

September 1991

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Douglas P. Gorgoni

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Abstract

This research study addressed the problem of an assessment, from an Air Force perspective, of the effectiveness of the four criteria measuring military value associated with the 1991 Base Closure/Realignment Commission. The Department of Defense had determined military value to be "preeminent" among all other considerations in reducing the size of the military basing structure, based on a reduction of the perceived military threat.

A literature review was conducted to review the works of previous authors who addressed the research problem. The literature review focused on the processes of the 1988 and 1991 Closure/Realignment Commissions.

During phase two of the methodology, the researcher administered two Delphi questionnaires by mail to 12 Air Force expert panel members. The researcher then conducted an analysis of the panel members' questionnaire responses in relation to the data gained during the literature review.

The panel members achieved a consensus of agreement that implementing 27 base closure criteria recommendations would result in a more effective measure of military value.

The study concluded with several recommendations to improve the effectiveness of measuring military value. Foremost among the recommendations was that the Air Force consider the 27 criteria improvement recommendations.

EXPERT OPINION ON THE DEPARTMENT OF DEFENSE
BASE CLOSURE/REALIGNMENT POLICY AND PROCESS:
AN ASSESSMENT OF THE FOUR
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Chapter I. Introduction

Background

The decade of the 1990s has begun with a remarkable change in the way the U.S. views the international political-military-economic environment. The Cold War era concluded as the Berlin Wall came down in November 1989; with its fall came new challenges. The perceived Soviet threat to the U.S. diminished to the extent that "DoD's force structure and budget could decline dramatically over the next several years, in response to reduced tensions and threats worldwide" (Department of Defense Base Closure And Realignment Report, 1991:170).

With the reduction of budgets and personnel must come a commensurate reduction in the military infrastructure, to include military bases. The closing and realigning of U.S. military installations became a significant element of each military service's strategy for balancing the base infrastructure with the declining force structure (Department of Defense Base Closure And Realignment Report, 1991:170).

A recently-published Department of Defense (DoD) report outlined the conditions that will shape the U.S. Military Departments in future years. The report stated the following:

The Department of Defense is reducing and reshaping its military forces to adapt to changes in the strategic environment, and to meet the challenges and opportunities of the post-Cold War era.

The reshaping of the U.S. armed forces will continue through the Fiscal Year 1992-1997 multi-year defense program, consistent with the world situation and the availability of resources for national defense. By fiscal year 1995:

There will be nine fewer active Air Force tactical fighter wings, a 37 percent reduction, and one less reserve component wing. The Air Force will also have 87 fewer strategic bombers, a decline of 32 percent. Active duty Air Force personnel will decline by 102,000, a 19 percent reduction...

The reductions in the resources available to the Department over the multi-year defense program are substantial...The Department must balance its force structure and its base structure, closing bases that are no longer needed to support the force structure. (Department of Defense Base Closure And Realignment Report, 1991:1-2)

The final sentence of this quote underscores the prime focus for this thesis research. The research focus involves the effectiveness of the criteria that measure military value as part of the base closure/realignment evaluation process.

Chapter Overview

This chapter commences with a discussion concerning the establishment of a non-partisan commission responsible for deciding which DoD installations should be closed or realigned under the direction of the 1991 base closure/realignment process as part of the force structure reduction. The concept of giving priority consideration to the "military value" of a U.S. military installation as part of this process is the focus of this research. The main

research goal is to conduct a qualitative assessment of the specific criteria developed to measure military value.

A list of frequently repeated terms is presented to aid the reader through the research presentation. A background statement relating the need for the establishment of a Closure Commission and the development of the specific criteria the Commission(s) applied is also discussed. Then, the prioritization or hierarchy given to military value in selecting bases for closure/realignment and the need for an expert assessment of the effectiveness of this process will follow. The specific selection criteria from both the 1988 and 1991 Commissions are also presented to trace the origin and evolution of the present 1991 selection criteria.

Then, the specific problem and investigative questions will be stated. Finally, the scope and limitations of this research effort will be given. Chapter I concludes with an overview of the successive chapters.

List Of Terms

The following terms are used frequently throughout this thesis. These terms are provided to eliminate ambiguity.

1. Closure: "Closing a military installation means the DoD is recommending that the primary missions and functions of an installation cease to be performed at that installation, at some future date." There may be "recommended exceptions to a full closure, such as to retain a reserve center at its current site after the rest of the

installation closes" (Department of Defense Base Closure And Realignment Report, 1991:31).

2. Commission on Base Realignment and Closure: The 1988 and 1991 Commissions established by the Secretary of Defense and the President, as directed by U.S. Public Laws 100-526 and 101-510, respectively (Defense Secretary's Commission on Base Realignment and Closure, 1988:37-45; Department of Defense Base Closure And Realignment Report, 1991:8, 127-129).

3. Congressional Defense Committees: "The Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives (U.S. Congress, 1990:section 2910).

4. Consensus: "Collective opinion; the judgement arrived at by most of those concerned" (Webster, 1965:482).

5. Effective(ness): "Capable of being used to a purpose," (In the case of this research, the purpose is the measure of military value) (Webster, 1965:724).

6. Military Installation: "A base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the Department of Defense, including any leased facility" (U.S. Congress, 1990:section 2910).

7. Military Value: "In the aggregate, military value refers to the collection of attributes that describe how well a base supports its assigned force structure and missions" (U.S. Federal Register, 1990:6375).

8. Realignment: "Includes any action which both reduces and relocates functions and civilian personnel positions but does not include a reduction in force resulting from workload adjustments, reduced personnel or funding levels, or skill imbalances" (U.S. Congress, 1990:section 2910).

9. SECDEF: The Secretary of Defense.

10. United States: "The 50 states, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Virgin Islands, American Samoa, and any other commonwealth, territory, or possession of the United States" (U.S. Congress, 1990:section 2910).

(Note: the topical literature for this research does not standardize the order of presentation for the terms "closure" and "realignment." Except for direct quotations and citations, the researcher has standardized the order of these terms to be closure/realignment. This convention will be used throughout the body of this research presentation).

General Issue

The establishment by charter of SECDEF Carlucci's Commission on Base Realignment and Closure on May 3, 1988, frequently referred to as the Carlucci Commission, was a milestone in U.S. Defense history because of a stalemate that had occurred between the Executive and Legislative branches of the U.S. Government. This stalemate began in 1965 when Congress passed legislation requiring formal reporting requirements designed to keep itself more involved in the

base closure process. When President Johnson vetoed this legislation, a rift between the two government branches grew (Department of Defense Base Closure And Realignment Report, 1991:167-168).

Later, the rift widened.

In 1976, the Military Construction Authorization Bill contained a provision prohibiting any base closure or reduction of more than 250 civilian employees until the Department (DoD) had notified Congress of the proposed actions, assessed the personnel and economic impacts, followed the study provisions of the National Environmental Policy Act (NEPA), and waited nine months. This bill was vetoed by President Ford and the Congressional veto override effort failed. (Department of Defense Base Closure And Realignment Report, 1991:167-168)

In 1977, however, President Carter approved similar legislation requiring the DoD to give Congress notification of proposed base closures. This legislation, formalized in Section 2687, title 10, U.S. Code, also required "an evaluation of the fiscal, local economic, budgetary, environmental, strategic, and operational consequences of such closure or realignment" (Department of Defense Base Closure And Realignment Report, 1991:141). This law marked the beginning of a 10-year period during which time the U.S. Government did not close a single military installation (Department of Defense Base Closure And Realignment Report, 1991:168; Defense Secretary's Commission on Base Realignment and Closure, 1988:8-9).

In an effort to break the stalemate and to cut unnecessary expenses from the Federal Budget, the Reagan Administration recommended to Congress a proposal concerning

base closures. The initial step involved the President's Private Sector Survey on Cost Control (PPSSCC), commonly called the Grace Commission.

The Grace Commission reported in 1983 that government savings could be made by eliminating unneeded military bases (Department of Defense Base Closure And Realignment Report, 1991:168). An article written in the business periodical Business Week referenced the Grace Commission report. The article reported "only 312 major bases in the U.S., about one-third of the total, are critical to national security" (Melamed, 1988:55).

The Grace Commission report documented overages in the DoD basing structure and recommended a non-partisan commission to decide which bases to close. With help along the way from several Congressmen, most prominently Arizona Senator Barry Goldwater and Representative Richard Armev of Texas, the stage was set for ending the stalemate (Department of Defense Base Closure And Realignment Report, 1991:168-169; Military Bases That Must Go, 1988:25-27; Kyl, 1988:77-80).

The next step in approaching the difficult task of reducing the basing structure was to establish the body of 12 independent individuals who would be responsible for base closure/realignment. SECDEF Carlucci's May 3, 1988 charter formally established the 1988 Commission, the first of its kind. This charter also delineated specific selection criteria to be applied in the base closure/realignment process.

Legislation, codified in Title II of the Defense Authorization Amendments and Base Closure and Realignment Act, Public Law 100-526, dated October 24, 1988 was then passed by Congress and enacted by the President (Defense Secretary's Commission on Base Realignment and Closure, 1988:38). This law eliminated the previous impediments to closing and realigning bases by endorsing the SECDEF's charter and the selection criteria, contained therein. The law also stated the SECDEF must accept all of the Commission's base closure/realignment recommendations, as a whole, or the Commission's activities would be void. The SECDEF accepted all of the Commission's recommendations in January 1989 (Department of Defense Base Closure And Realignment Report, 1991:168-169).

"The law provided Congress with the same opportunity and by May of 1989, the Congressional review period expired without the enactment of a joint resolution of disapproval" (Department of Defense Base Closure And Realignment Report, 1991:169). The Commission's recommendations thereby became law (Department of Defense Base Closure And Realignment Report, 1991:168).

The Selection Criteria

The original nine criteria were developed jointly by the DoD and Congress and were mandated in SECDEF Carlucci's charter to the 1988 Commission (Department of Defense Base Closure And Realignment Report, 1991:23; Defense Secretary's

Commission On Base Realignment And Closure, 1988:37). These criteria were:

1. The current and future mission requirements and the impact on operational readiness of the military departments concerned.
2. The availability and condition of land and facilities at both the existing and potential receiving locations.
3. The potential to accommodate contingency, mobilization, and future force requirements at receiving locations.
4. The cost and manpower implications.
5. The extent and timing of potential cost savings, including whether the total cost savings realized from the closure or realignment of the base will, by the end of the 6-year period beginning with the date of the completion of the closure or realignment of the base, exceed the amount expended to close or realign the base.
6. The economic impact on the community in which the base to be closed or realigned is located.
7. The community support at the receiving locations.
8. The environmental impact.
9. The implementation process involved. (Defense Secretary's Commission On Base Realignment and Closure, 1988:37).

Nowhere in the charter nor the criteria themselves was the term "military value" mentioned. In its December 1988 report, published at the end of its deliberations, however, the 1988 Commission reported military value was the primary criterion it used in considering installations for closure/realignment and recommended that military value receive priority consideration among the criteria hierarchy during future Commission activities (Defense Secretary's

Commission On Base Realignment And Closure, 1988:10-11).

This formal report, dated December 29, 1988, stated:

In organizing to accomplish its tasks, as defined in its charter and companion legislation, the Commission established a number of parameters to govern its work. Significant to its decisions was the selection of military value as preeminent among the criteria governing nomination of bases for closure or realignment. The Commission's recommendations will not degrade military effectiveness, and in most cases will improve it. (Defense Secretary's Commission On Base Realignment And Closure, 1988:10)

The next round of base closure/realignment deliberations occurred in 1991 as required in Title XXIX of the Defense Base Closure and Realignment Act of 1990, Public Law 101-510. This law, dated November 5, 1990 required that Commissions be established in calendar years 1991, 1993, and 1995. This legislation also required the Commission be comprised of eight members (whereas the 1988 Commission was comprised of 12 members) and the selection criteria be proposed by the SECDEF and approved by the Congress after a 30-day public comment period had occurred (Department of Defense Base Closure And Realignment Report, 1991:7-8, 127-140).

The criteria presently used by the 1991 Commission have evolved as a result of the 1988 Commission's recommendations, DoD directed changes, and public comment.

The Evolution of the Original Nine Criteria. The November 30, 1990 issue of the U.S. Federal Register officially introduced several DoD-proposed changes to the base closure/realignment selection criteria. Foremost among these changes was the adherence to the 1988 Commission's

recommendation that military value be the primary consideration during the selection process. Further, Criteria One thru Four were specifically referenced as the standard by which military value would be measured (U.S. Federal Register, 1990:49678-49679).

A final change to the 1988 Commission criteria, as identified in this Federal Register issue, was made to the wording of Criterion One. The term "the Department of Defense" replaced "the military departments concerned" (U.S. Federal Register, 1990:49678-49679).

The evolution of the selection criteria did not end with this change. Public Law 101-510, in referring to the requirement that public comments concerning the selection criteria be considered, stated:

The Secretary (SECDEF) shall provide an opportunity for public comment on the proposed criteria for a period of at least 30 days and shall include notice of that opportunity in the publication required under the preceding sentence (the Federal Register). U.S. Congress, 1991:section 2903)

Further,

The Secretary shall, by no later than February 15, 1991, publish in the Federal Register and transmit to the congressional defense committees the final criteria to be used in making recommendations for the closure or realignment of military installations... Such amended criteria shall be the final criteria to be used, ...in making such recommendations unless disapproved by a joint resolution of Congress enacted on or before March 15 of the year concerned. (U.S. Congress, 1991:section 2903)

As required by Public Law 101-510, the DoD had to consider public comments outlining proposed changes to the selection criteria. The DoD addressed these comments in the

February 15, 1991 issue of the Federal Register. The public comments received totaled 169. These public comments questioned various aspects of the closure/realignment criteria and policy. Of these 169 public comments, a majority supported the DoD's proposal that military value be given priority consideration (Department of Defense Base Closure And Realignment Report, 1991:26).

The DoD proposed several more significant criteria changes as a direct result of the public comments. After its review of the public comments, the DoD-proposed criteria were reduced to eight (Criterion Nine--The implementation process involved--was eliminated) and were grouped into three general categories. These criteria, grouped by category, are presented with their introductory paragraph:

In selecting military installations for closure or realignment, the Department of Defense, giving priority consideration to military value (the first four criteria below), will consider:

Military Value

1. The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.
2. The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.
3. The ability to accomodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.
4. The cost and manpower implications.

Return on Investment

5. The extent and timing of potential costs and savings, including the number of years, beginning with the

date of completion of the closure or realignment, for the savings to exceed the cost.

Impacts

6. The economic impact on communities.
7. The ability of both the existing and potential receiving communities' infrastructure to support forces, missions and personnel.
8. The environmental impact. (U.S. Federal Register, 1991:6374).

March 15, 1991 passed without a joint Congressional resolution disapproving the above eight criteria.

Appropriately, these criteria were officially approved and became legally enforceable, as mandated by the previously discussed Public Law 101-510.

Background Summary. This introduction has pointed out the several iterations by which the closure/realignment criteria have evolved. These iterations began with SECDEF Carlucci's 1988 Commission Charter and continued with the 1988 Commission's direct recommendations, DoD-generated changes, and DoD reaction to the 169 public comments.

Noted in conducting an analysis of the changes to the military value criteria are several significant changes. These changes include the following:

1. Replacing the phrase "Department of Defense" in Criterion One with "the Department of Defense's Total Force." This change focused the intent of Criterion One on the National Guard and Reserve Component forces, in addition to those forces on permanent active duty (U.S. Federal Register, 1991:6375). The "total force" concept involved having the

right force structure balance of Guard, Reserve, and Active forces and the base structure to effectively support each.

2. Adding the phrase "and associated airspace" to Criterion Two. This addition placed "associated airspace" as a key determinant, like land and facilities, in comparing different installations for closure/realignment (U.S. Federal Register, February 15, 1991:6275). In the case of bases that perform their primary missions in the air, this was a critical change.

3. Changing the word "potential" in Criterion Three to "ability" and adding "future total force requirements at both the existing and potential receiving locations." Prior to this change, only "receiving locations" were addressed. The request for this change came from the public comments that the ability to accomodate contingency and mobilization requirements of a base should also be given consideration (U.S. Federal Register, 1991:6374).

The preceding discussion focused on the origin and evolution of the base closure/realignment selection criteria. These approved selection criteria were modified in a brief time period. Yet, the application of these criteria is the means by which military value, foremost among all other considerations, was determined as part of the 1991 base closure/realignment process.

The application of the four military value selection criteria and the degree of effectiveness to which

these criteria measure military value are the heart of this research effort.

A qualitative assessment of the four criteria's effectiveness in measuring military value has not been accomplished since the adoption of these eight amended base closure/realignment selection criteria on March 15, 1991.

Specific Problem

Base closure/realignment is very important to both the economic efficiency and military effectiveness of the USAF force structure drawdown. The problem this thesis will address, via expert opinion, is how effective are the 1991 DoD Base Closure/Realignment selection criteria.

Investigative Questions

The following investigative questions have been developed to address the specific research problem:

1. Are the 1991 Base Closure/Realignment Criteria One thru Four effective in measuring military value?
2. Are other criteria required to provide the DoD and the Commission a more effective means of measuring military value? If so, what are the other criteria?
3. Is the required public comment period an effective way to revise the selection criteria for base closure/realignment?
4. Will the application of the four criteria measuring military value coincide with the Department of Defense's

force structure plan, and the subsequent return of forces from overseas?

5. Will the application of the four criteria measuring military value coincide with the USAF's potential creation of composite wings?

Research Goal

As required by Public Law 101-510, "the Commission is charged with reviewing the base closure and realignment recommendations of the Secretary of Defense during calendar years 1991, 1993, and 1995" (U.S. Congress, 1990:section 2902). The ultimate goal of this research is to provide to Headquarters USAF a well-documented expert panel assessment of the effectiveness of and recommendations to the selection criteria measuring military value. It is hoped this expert view will be forwarded to the Office of the Secretary of Defense (OSD) for consideration during future review and amendment of the base closure/realignment criteria for the expected 1993 and 1995 Commissions.

Scope of the Research

The scope of this research effort extended to the first four of the total eight selection criteria, specifically, the four criteria measuring military value. No effort was made to assess the other four criteria under the categories Return on Investment and Impacts. This scope was chosen to focus strictly on military value which, in the words of the 1988 Commission, the DoD, and in a majority of the public comments

was of "priority" importance among the selection criteria (Department of Defense Base Closure And Realignment Report, 1991:23).

Limitations of the Research

This research study did not extend beyond an assessment, from the perspective of Air Force members, of the military value criteria. No effort was made to gain the opinion of experts from the other military service departments.

Also, the limits of the research did not extend beyond those USAF offices that have been directly involved in the current 1991 Commission closure/realignment process. This limitation was placed to ensure the members of the expert panel members were highly knowledgeable and active in closure/realignment criteria and processes in their command organizations.

Chapter Summary

This chapter introduced the establishment of the Commission On Base Closure/Realignment. A list of terms was presented to aid the reader through the presentation of the research. Also, a background statement related the need for the establishment of the Closure Commission in light of the stalemate between the Legislative and Executive branches of the U.S. Government. The development of the specific criteria the Commission(s) applied was also discussed. Then, the prioritization of military value and the need for an

expert assessment of the effectiveness of the military value criteria were presented.

Both the 1988 and the 1991 Commissions' criteria, along with interim changes, were given. Additionally, the specific problem and the five investigative questions were presented. Finally, the scope and limitations of the research were outlined.

Overview of Successive Chapters

Chapter II presents background for the thesis research including previous authors who have dealt with different aspects of the research problem. Chapter II also provides justification for conducting this research by focusing on public interest of the results of base closure actions. This background also provides the basis for developing the research instrument of Chapter III.

Chapter III is the methodology or method of approach in conducting this research, including the use of the Delphi method. The researcher will discuss literature relating to this methodology and will present a justification for the method selected.

Chapter IV will present the findings, that is, what this researcher discovered in applying the research instrument from Chapter III, and an analysis of those findings.

Chapter V will complete the research by presenting the conclusions and recommendations from the findings and analysis of Chapter IV.

Chapter II. Literature Review

Chapter Overview

This chapter presents a review of the literature addressing base closure/realignment. The review represents phase one of the methodology and is written 1) to provide the reader an understanding of the issues surrounding base closure/realignment and the application of the selection criteria and 2) to act as the basis for the writing of phase two of the methodology; the two Delphi questionnaires.

The method of organization of this chapter is one of cause and effect. The researcher determined this to be the most logical presentation method based on the historical events. The following discussion presents the 1988 Commission's purpose and the methodology it applied during its deliberations. This discussion is followed by the results of a General Accounting Office audit report of the 1988 Commission's recommendations.

Then, public reaction to the Commission's findings is presented. The chapter concludes with the establishment of the 1991 Commission and its relation to the force structure plan.

Discussion

Chapter I identified the President's Private Sector Survey on Cost Control (PPSSCC), or Grace Commission, as the origin for the establishment of the non-partisan Commission

on Base Closure/Realignment. Lieutenant Glenn A. Holk, USN, a graduate student at the Naval Postgraduate School, completed a Masters thesis in December 1989 entitled The Criteria for and Effects of Base Closures. In his thesis Lieutenant Holk referred to recommendations contained in the January 1984 Grace Commission report, including the following:

The President should appoint an independent commission to study realignment or have the Department of Defense designate all bases as candidates for closure and begin appropriate studies. The PPSSCC estimated that closing some unnecessary bases could save as much as \$2.7 billion. (Holk, 1989:15)

The above reference underscored the primary purpose for the establishment of the Commission--reducing the cost of national defense through a more efficient military base structure.

The 12-member 1988 Carlucci Commission, co-chaired by former Governor, Congressman, and Senator from Connecticut Abraham A. Ribicoff and former Alabama Congressman Jack Edwards, was in force from the date it was chartered on May 3, 1988 until it published its formal recommendation report to the SECDEF in December 1988.

The Commission's recommendations affected 145 installations, 86 of which were recommended for closure. An additional 54 bases were to be realigned in some way, and 5 bases were to be partially closed (Defense Secretary's Commission On Base Realignment And Closure, 1988:19-24).

The Commission's report stated:

From the outset, the Commission sought the most appropriate criteria to govern the nomination of installations for realignment or closure. While cost reduction was an important reason for its chartering, the Commission decided that the military value of a base should be the preeminent factor in making its decisions. With a primary focus on military value and improving the overall military base structure, the Commission elected not to set savings targets. Nevertheless, the Commission estimates the realignment and closure actions recommended in this report should lead to annual savings of \$693.6 million and a 20-year savings with a net present value of \$5.6 billion. (Defense Secretary's Commission On Base Realignment And Closure, 1988:6)

The previous quote illustrates the delicate balance between retaining the original purpose of the Commission, that of achieving future budgetary savings by closing and realigning unnecessary installations (a criterion of efficiency); while simultaneously giving warranted credence to military value (a criterion of effectiveness).

In its report, the Commission expressed its view that as a decision body, it was successful in achieving the above goal of efficiency while not sacrificing effectiveness and was unanimous in its report recommendations (Defense Secretary's Commission On Base Realignment And Closure, 1988:10-11).

The 1988 Commission Process

Assumptions. The Commission made several assumptions in reviewing over 2300 separate installations. Besides the placement of military value as the criterion of primary importance, the Commission did not set "cost-savings targets,

floors, or ceilings" (Defense Secretary's Commission On Base Realignment And Closure, 1988:10). The Commission also assumed that the military force structure would remain unchanged, as outlined in the then-approved military plans. The Commission assumed a focus on the installations and their uses, not on the particular military units assigned nor the command or organizational structure (Defense Secretary's Commission On Base Realignment And Closure, 1988:10-11).

Commission Methodology. The 1988 Commission's methodology was two-phased.

Phase One. Phase one grouped the bases into six Commission staff task forces for the purpose of measuring military value. These task forces then organized the bases into 22 categories as follows:

<u>Task Force</u>	<u>Category</u>
Ground	Operating Ground Operating Troops
Air	Operating Tactical Aircraft Operating Strategic Aircraft Operating Mobility Aircraft Operating Missiles Flying Training
Sea	Operating Surface Ships Operating Submarines
Training and Administration	Headquarters Training Classrooms
Depot	Maintenance Depots Supply Depots Munitions Facilities Industrial Facilities Production Facilities

All Other

Guard & Reserve Centers
Communications/Intelligence
Sites
R&D Laboratories
Special Operations Bases
Space Operations Centers
Medical Facilities

(Defense Secretary's Commission On Base Realignment And Closure, 1988:49).

The task force's job was to oversee the collection of data on the installations within each of the above categories. Service-provided data was the starting point of the evaluation. The evaluation involved the measurement of 21 mission-related physical attributes grouped into five overall military value factors (Defense Secretary's Commission On Base Realignment And Closure, 1988:16). These military value factors and physical attributes were as follows:

Military Value Factor

Physical Attributes

Mission Suitability

Site-specific Mission
Deployment Means
Relationship to Other Activities
Weather/Terrain/Land Use
Survivability
Maneuver Space

Availibility of Facilities

Operations
Support
Infrastructure
Administration

Quality of Facilities

Condition
Technology
Configuration

Quality of Life

Family Housing
Bachelor Housing
Recreation/Amenities
Medical

Community Support

Work Force
Commercial Transport
Infrastructure
Complementary Industry

(Defense Secretary's Commission On Base Realignment And Closure, 1988:50).

The Commission's Phase-One analysis focused on military value and assessed each base's capacity to absorb additional missions and forces and any excess capacity within that category. Next, the Commission ranked the bases by assigning a level of significance to each of the 21 attributes. This ranking based on military value and capacity was done prior to determining those bases which were to proceed to phase two. The Commission checked the analyses to ensure consistency (Defense Secretary's Commission On Base Realignment And Closure, 1988:16).

Phase Two. The second phase was the Commission's evaluation of the potential relocation of the activities affected by the projected closure/realignment recommendations from phase one. This included an assessment of the costs versus savings incurred in the six-year period after the completion of the closure/realignment, as stipulated in the 1988 criteria.

The cost model used by the Commission was called The Cost of Base Realignment Actions (COBRA) model. COBRA was developed by the Logistics Management Institute (LMI), for use by the Commission (and was published for public review after the Commission completed its activities). As stated in the COBRA model, it was developed to calculate

"one-time and recurring costs and savings based on major command-wide standards and scenario-specific estimates" (Brown, D., 1988:v).

In its published report, the Commission concluded its discussion of the base evaluation process with the following comments:

While the Commission depended heavily on the process described above, its final recommendations also reflect the individual judgements and deliberations of the Commissioners. There is no magic formula that will yield precise results. The process enabled the Commissioners to focus on the best opportunities; it did not replace subjective judgement. (Defense Secretary's Commission On Base Realignment And Closure, 1988:18)

Commission Recommendations. With its work concluded, the Commission published its report in December 1988. For the Air Force, the Commission recommended the closure of five major air bases and the realignment of the forces and organizations associated thereon. The five bases recommended for closure were: Chanute Air Force Base, Illinois; George Air Force Base, California; Mather Air Force Base, California; Norton Air Force Base, California; and Pease Air Force Base, New Hampshire.

GAO Audit Findings. On January 12, 1989, shortly after the Commission concluded its report, Senator Sam Nunn and Representative Les Aspin, the Chairmen of the Senate and House Armed Services Committees, respectively, requested the GAO evaluate the Commission's activities. In November of that year, the GAO published its audit report.

The GAO evaluated the Commission's methodology as "generally sound" (General Accounting Office, 1989:3), but noted errors in the application of the methodology. The GAO noted Commission errors in its Phase One analysis. These errors involved the double counting of square footage of base facilities and errors in the calculation of base acreage. The GAO concluded these errors affected the military value ranking of the bases (General Accounting Office, 1989:17-25).

The GAO also found errors in the Commission's Phase-Two analysis. These errors involved the overestimating of potential savings and were due to data and estimate flaws. The GAO pointed to the Commission's time constraints and its lack of data verification procedures as the source of these errors (General Accounting Office, 1989:26-43).

In concluding its audit report, the GAO recommended the DoD incorporate several changes, should another Commission be established, to improve the overall process. These recommendations included the establishment of an internal control plan to ensure data accuracy, the development of cost estimates for all cost factors, and the need for sufficient time for a future Commission to complete its study (General Accounting Office, 1989:25, 39).

Public Opinion. On January 2, 1989 the periodical Aviation Week & Space Technology published an article that expressed some Congressional opinion of the Commission's findings. The article quoted House Armed Services Chairman Les Aspin, who stated the closure list was "too modest" and

that the Air Force was the only service to see a "block of major bases go" (Five Air Force Bases, 1989:40).

Base closure has been an extremely sensitive issue for political figures. An article in Governing Magazine reported that President Nixon closed a number of bases in Massachusetts in 1973, the only state he lost in the 1972 election. The closure of bases and the resulting decrease to the economic base has made lawmakers hesitant to touch bases in their districts (Sylvester, 1988).

Another periodical defined what it called the "Not In My District" syndrome when it quoted one Congressman who "half-jokingly" remarked "I hope we will be able to close any base that needs closing, except in my district" (Military Bases, 1988:25).

An article in Nations Business underscored some of the positive aspects of base closures. This article reported on Mineral Wells, Texas, where the U.S. Army had closed Fort Wolters in 1973. William Rivers, former Mineral Wells city manager was quoted saying "Losing a military facility can be tremendously painful for a community, but it can also be an opportunity" (Bacon, 1989:9). For Mineral Wells the opportunities included the development of a vast industrial park on the former Army facilities, including a youth home, a gymnasium, the use of the Olympic-sized swimming pool, and "the world's largest" heliport (Bacon, 1989:10).

A feature in Forbes focused on the financial boon to the Federal and local governments as a result of the current

period of base closures. This article reported that in this era of the Cold War that the "privatizing redundant bases would put a significant dent in the budget deficit" (Banks, 1990:39).

A review of the periodical literature on base closure identified, more than anything, that a potential base closure can be a hardship or an opportunity for a community. In its 1990 report, the DoD's Office of Economic Adjustment completed a 29-year study of the affects of base closure. This Economic Adjustment Committee was organized under the direction of the Office of the Assistant Secretary of Defense, Force Management & Personnel, and was represented by the membership of many other governmental agencies, including the following:

- Department of Defense
- Department of Agriculture
- Department of Commerce
- Department of Education
- Department of Energy
- Department of Health & Human Services
- Department of Housing & Human Services
- Department of the Interior
- Department of Justice
- Department of Labor
- Department of Transportation
- Council of Economic Advisors
- Office of Management & Budget
- Arms Control & Disarmament Agency
- Environmental Protection Agency
- General Services Administration
- Small Business Administration
- Office of Personnel Management
- (Office of Economic Adjustment, 1990:36)

This report found the effects of base closure/realignment on communities varied. Some communities fared well, while others suffered hardship. Excluding

military personnel, 64,680 more jobs were created than were lost as a result of base closures in the 29-year period under study. Mineral Wells, Texas was only one example of the opportunities available to communities affected by base closure (Office of Economic Adjustment, 1990:14).

The previous discussion presented the function and processes of the 1988 Commission. The Commission represented a milestone by ending the rift that had occurred as a result of protectionism on the part of Congressional members for the military bases in their districts. Also presented were the findings of a GAO audit report on the Commission's findings and recommendations. Public opinion was also presented to demonstrate some of the emotionally-charged issues inherent in closing military bases.

The 1991 Commission Process

Unlike the 1988 Commission, whose assumptions did not include the reduction of force structure as a result of a thawing in East-West relations, the Commission of 1991 worked from the premise that the DoD "must balance its force structure and its base structure, closing bases that are no longer needed to support the force structure" (Department of Defense Base Closure And Realignment Report, 1991:1).

Also, in contrast to the 1988 Commission which on its own chose military value as "preeminent," the eight-member Commission of 1991 was directed to consider military value above all other criteria. Moreover, the measure of military

value was also mandated to be measured in terms of the first four of the eight Congressionally-approved selection criteria (U.S. Federal Register, 1991:6374).

The criteria mentioned above were revised several times prior to Congressional approval. The sources for revision included minor DoD-induced wording changes, the recommendation from the 1988 Commission to consider military value as "preeminent among the criteria" (Defense Secretary's Commission On Base Realignment And Closure, 1988:10), and changes as a result of the legislatively-mandated public comment period (U.S. Congress, 1991:section 2903). Of these three sources of selection criteria changes, the 169 public comments resulted in the most significant revisions to the four military value criteria.

In response to many public comments stating that a correlation between the force structure and the criteria was not present, the DoD rebutted, stating "its analytical processes [of the criteria] were based on the force structure plan" and that "the military value criteria...provide the connection to the force structure plan" (Department of Defense Base Closure And Realignment Report, 1991:25).

The Force Structure Summary. The force structure plan is a classified document. Published as part of its 1991 Base Closure and Realignment Report, however, was an unclassified summary of the DoD's force structure plan. This summary consisted of an assessment by the SECDEF of "the probable threats to the national security during the FY92-97 period"

and "the anticipated levels of funding for this period"
(Department of Defense Base Closure And Realignment Report,
1991:15-21).

A section of this force structure summary stated:

Reflecting the reduced chance of global conflicts, the President's FY 1992-1993 budget (and its accompanying Future Years Defense Program (FYDP)) includes reductions in the U.S. force structure that "continues" [sic] a prudently phased plan for reaching the force targets established for the new strategy and threat projections...Strategic forces are programmed to be scaled back in accordance with expectations regarding arms reduction agreements and to enable the Department of Defense to maintain credible strategic deterrence at the least cost...Conventional forces will be restructured to include significant airlift and sealift capabilities, substantial and highly effective maritime and amphibious forces, a sophisticated array of combat aircraft, special operations forces, Marine Corps divisions, and heavy and light Army divisions.
(Department of Defense Base Closure And Realignment Report, 1991:20-21)

The above quote points out the necessity of considering the DoD force structure during the 1991 base closure/realignment process. The infrastructure of the U.S. Defense establishment in future years will change as a direct result of the four military value criteria and their direct connection to the force structure plan.

The Composite Flying Wing. As part of its force structure, the DoD recommended Mountain Home AFB, Idaho, as the location "to support a new composite wing equipped with a variety of fighter, tanker, and potentially, bomber aircraft realigning from other bases" (Department of Defense Base Closure And Realignment Report, 1991:115).

In an article published prior to his selection as Air Force Chief of Staff, former Commander in Chief, Pacific Air Forces, General Merrill A. McPeak described his view of the composite wing concept. General McPeak stated:

"Our warfighting concept has to take account of the fact that almost nothing ever works right...The composite wing makes smaller mistakes because it works and trains together in peacetime. It becomes proficient at planning and executing force packages...Moreover, the people live together. Families know one another. Thus are formed the cohort links that are themselves a decisive, war winning factor, in my view. (McPeak, 1990:11)

The composite wing concept, if approved and implemented on a large scale, will require a basing structure to meet its complex array of force packages and missions. Appropriately, base closure/realignment actions must be based on these future requirements as an element of the overall DoD force structure.

Chapter Summary

The Grace Commission's recommendation to trim the U.S. Military basing structure (an effort aimed at reducing the Federal Budget) marked the beginning of the largest effort in U.S. history to reduce the base infrastructure of the U.S. Armed Services. The 1988 Commission completed its charter in recommending the closure of five Air Force Bases and several realignments stemming from these five closures. During its deliberations, the Commission, on its own accord, stressed military value above all other factors.

In 1991, a second Commission was formed with revised military value criteria. Unlike its predecessor Commission, the eight-member 1991 Commission was required to make its recommendations based on a future force structure reduction, stemming from the perceived reduction of the military threat.

This discussion has focused on previous authors who have dealt with the research problem. The 1988 Commission's purpose and methodology served as the origin of base closure/realignment actions. Both GAO and public comments on the 1988 Commission's recommendations were outlined. The discussion concluded with the establishment of the 1991 Commission and its relationship to the force structure plan. The findings of this literature review serve as the basis for the development of the research instrument of Chapter III.

Chapter III. Methodology

Chapter Overview

This chapter presents the methodology or method of approach used to collect and analyze data pertaining to the research goal and investigative questions of Chapter I. The data gained by the application of this methodology will be presented in Chapter IV, Findings and Analysis. Then, the conclusions and recommendations, drawn from these findings and analyses, will be presented in Chapter V to answer the specific research problem.

The methodology is comprised of three phases:

1. Conducting a literature review to identify the issues surrounding the development of the selection criteria measuring military value and examine conclusions of previous authors who have dealt with different aspects of the research problem. The results of this literature review were presented in Chapter II.

2. Using the information gathered during the literature review phase to construct and administer the research instrument, a series of two Delphi questionnaires. The intent of this phase is to elicit a consensus opinion from a group of Air Force experts in this field of study. The development of this second phase is presented in this chapter.

3. Analyzing the data obtained from the literature review phase in light of the data gained from the application

of the Phase Two Delphi method. The results of this third phase will be presented in Chapter IV, Findings and Analysis.

Phase One--The Literature Review

A literature review was used to determine the major issues involved in the development of the selection criteria used to measure "military value" as the primary discriminator for selecting base closure/realignment recommendations. This review of literature encompassed previous authors from the DoD, the U.S. Government, and the private sector who have written on the subject.

The literature review commenced with the accessing of the Defense Technical Information Center (DTIC) and DIALOG on-line computer bibliographical systems. These two sources provided a limited amount of published works pertinent to the research.

The next step of the literature review extended to the U.S. Congress General Accounting Office (GAO) report index, which listed by topic the titles of published audit reports. This step proved valuable in that it listed an audit report which documented the strengths and weaknesses of the 1988 Commission's recommendations (General Accounting Office, 1990). Searching this GAO report led the researcher to a better understanding of the 1988 Commission's application of the selection criteria. The researcher contacted one individual at the GAO responsible for this report and obtained referrals to several useful DoD-published documents.

These DoD publications focused on the 1988 and 1991 Commissions and the development of the selection criteria and included several public notices in the U.S. U.S. Federal Register. This DoD-focused portion of the literature review also included the 1990 report by the DoD's Office of Economic Adjustment.

Other sources included as part of the literature review came from a review of The Reader's Guide to Periodical Literature. These sources primarily consisted of periodical literature that reflected the emotional aspect of the effects on the public of base closure/realignment actions.

Phase Two--The Delphi Method

The research had its foundation built on gaining expert opinion, a consensus. The instrument chosen to accomplish this was the Delphi Method. Further discussion of this method is appropriate.

Background. Traditionally, the method to gain expert opinion is via face-to-face discussion. In such an undertaking the participants are brought together to address the issues. This method, though perhaps more desirable than one "expert" making a decision, has several drawbacks. These drawbacks include (1) Dominant individual influence, (2) Noise, or the phenomenon of such group discussions dealing more with "individual and group interests, not with problem solving" (Dalkey, 1969:14), and (3) Pressure from the group to conform (Dalkey, 1969:12-14).

Conversely, Delphi minimizes the effects of these three drawbacks. Through the respective use of (1) Anonymity, (2) Controlled feedback, and (3) Statistical group response, the hazards of interference associated with dominance, noise, and pressure to conform are minimized (Dalkey, 1969:16).

Anonymity. Anonymity is achieved through the use of communication that is non-attributable to the expert. Usually, the procedure is done with written questionnaires or on-line computers (Dalkey, 1967:3). For this study, only the former, written questionnaires, were used. Although the researcher knew who was being included in the research, the experts' names were annotated only for controllability during questionnaire mailing. No expert panel member's name was associated with any response, thereby ensuring anonymity.

Controlled Feedback. In an effort to reduce noise, Delphi questionnaires are applied sequentially, as repeated iterations. Between each round, a summary of the previous round is prepared for communication to the experts in the successive round (Dalkey, 1969:16). For this research, two iterations were conducted.

Statistical Group Response. This Delphi characteristic refers to the goal of minimizing the tendency of groups to conform. Statistical group response also focuses on assuring every expert's opinion is included and the natural process of idea attrition associated with face-to-face discussion is eliminated. As a result, it is

possible to have many response variations as part of a Delphi exercise (Dalkey, 1969:16).

This discussion has centered on Delphi as a technique. In summary, Delphi uses expertise without sacrificing objectivity. As Bernice Brown, a Delphi proponent from the Rand Corporation, points out:

The use of expertise is not a retreat from objectivity. Judgement and informed opinion have always played a crucial role in human enterprises. Expert judgement can be incorporated into the structure of an investigation and can be made subject to some of the safeguards that are commonly used to assure objectivity in any scientific inquiry. (Brown, B., 1968:14)

And according to Norman C. Dalkey, also of the Rand Corporation:

The procedure is, above all, a rapid and relatively efficient way to cream the tops of the heads of a group of knowledgeable people. In general, it involves much less effort for a participant to respond to a well-designed questionnaire than, for example, to participate in a conference or to write a paper. A Delphi exercise, properly managed, can be a highly motivating environment for respondents. (Dalkey, 1969:16-17)

The researcher determined the Delphi Method of obtaining a consensus opinion from a group of experts to be a justified method for conducting this research. These Delphi techniques have been applied directly to the research problem.

Delphi Application

The Delphi method was applied through several steps and iterations, including:

1. Choosing the specific panel of experts and contacting each member by telephone to solicit his or her participation.

2. Using the literature review as the means of building the first-round Delphi questionnaire's list of questions that accurately addresses the military value criteria and their application. Done properly, this step ensures the instrument asks the right questions based on the investigative questions of Chapter I. This step includes the selection of a measurement scale by which to measure the responses and a request for panel demographics information.
3. Mailing the questionnaire to the panel members chosen in Step 1 and maintaining control over the response process until the responses are returned to the researcher.
4. Collecting the response data and performing the chosen statistical analysis to determine whether a consensus has been achieved. This process was the basis for constructing the second-round Delphi questionnaire.
5. Sending out the the second questionnaire to the same panel and maintaining the same level of control as in Step 3, until the responses are returned.
6. Collecting the response data and repeating the statistical analysis process from step four to determine whether further consensus has been achieved. Round two was the final round of this Delphi study.

The researcher provided an abbreviated version of the above Delphi Method discussion to the respondents as part of round one (Appendix A). This was done to familiarize the panel with the data-gathering process and to alleviate any potential confusion. The Delphi application process used in this thesis research will now be explained in further detail.

Expert Panel Selection. The determination of the panel of experts was restricted to Air Force civilian and military personnel since the research goal comprised an assessment, from an Air Force perspective, of the effectiveness of the selection criteria measuring military value.

This group was narrowed by focusing on a select group of Air Force individuals knowledgeable in the 1991 selection criteria and their application. This additional qualification was chosen because of the several key changes to the base closure/realignment selection criteria from the 1988 original nine criteria to the eight criteria in 1991. The rationale used to make this qualification was the hypothesis that those respondents most actively involved in the process would be most qualified to offer an expert opinion.

The researcher considered three criteria the panel members should meet to be included on the panel. The criteria used for the selection of the panel of experts were:

1. Each panel member should be considered the most knowledgeable in his or her area of responsibility, based on the assignment of this individual to a position dealing primarily with base closure/realignment in that level of responsibility such as at Major Command (MAJCOM) level or higher.

2. Each panel member should be responsible for the application of policies associated with the 1991 round of base closure/realignment at subordinate levels.

3. Each panel member could be an officer, an enlisted, or a civilian Air Force member, provided the previous two criteria were met.

The researcher requested recommendations for expert panel members from the Air Force office of primary

responsibility (OPR) for base closure/realignment, HQ USAF/PRPJM. On May 1, 1991, the researcher phone contacted that office, identified the purpose of the study, and requested assistance on the identification of the panel of experts. This contact at HQ USAF/PRPJM provided a list of 12 Air Force personnel, all actively involved in the 1991 Commission process and in the application of the military value selection criteria in their respective areas of responsibility (Oldham, 1991). All 12 members met the above three panel selection criteria and were personally contacted. All 12 agreed to participate.

Panel Preparation. Douglas R. Berdie and John F. Anderson, experts in questionnaire sampling, pointed out the necessity of stressing to the panel members the need for their participation in the research. They reported their experience that respondents were more willing to participate in a research project if they knew their responses were needed (Berdie and Anderson, 1974:58).

Further, these same two authors underscored the need for a cover letter to introduce the first questionnaire. The purpose of the cover letter is to remind the participants of the purpose of the research, as well as to restate the researcher's need for their participation. This written contact reinforces the initial researcher-respondent phone contact. This important cover letter should be short, to the point, and highly professional (Berdie and Anderson,

1974:59). The introductory cover letter used with the first-round Delphi Questionnaire is included in Appendix A.

Panel Demographics. Included with the first-round Delphi questionnaire was a Panel Member Demographics Sheet. The purpose of this sheet was to collect select information about the panel members to provide the researcher an understanding of the overall panel demographics and the panel members' degree of closure/realignment experience. A copy of this Panel Member Demographics Sheet is provided with Appendix A.

Questionnaire Development

After the 12 panel members were contacted and agreed to participate, the researcher proceeded to select a scale of measurement by which the responses would be measured and to construct the first-round Delphi questionnaire.

The Measurement Scale. The specific value to be measured was the degree of the experts' agreement or preference to the effectiveness of the four military value criteria in selecting bases for closure/realignment. The scale of choice for studies that have as their focus an indicator of order or preference, according to business research expert C. William Emory, is an ordinal scale, or a scale that shows order such as greater than and less than relationships (Emory, 1985:86-91).

The scale chosen for this research was the Likert Summated Scale (hereafter Likert scale). The Likert scale

lends itself particularly well to programs of change or improvement. It consists of given statements expressing a favorable or unfavorable response to a statement of interest (Emory, 1985:255-256). The Likert scale chosen required the respondents to answer each statement in terms of five different degrees of agreement (Figure 1).

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Figure 1. Five-Point Likert Scale

STRONGLY AGREE meant the respondent agreed in toto with the complete statement. AGREE represented a general agreement with the concepts represented by the statement. UNDECIDED meant neither an agreement nor a disagreement. DISAGREE represented a general disagreement with the concepts represented by the statement. Finally, STRONGLY DISAGREE meant the respondent disagreed in toto with the complete statement.

First-Round Delphi Questionnaire

From the data obtained in the literature review of Chapter II and with a focus on the five investigative questions of Chapter I, 29 total questions were developed for the first-round Delphi questionnaire. These 29 questions included 20 Likert-scaled questions and nine open-ended questions. Each question was designed to support one of the

five investigative questions. The first-round Delphi questionnaire in its entirety is presented as Appendix A. A breakdown of the investigative questions from Chapter I with their supporting questions in the two Delphi questionnaires is provided as Appendix B.

Twelve Likert-scaled questions of a general nature introduced the questionnaire. These questions were developed directly from the literature review and represented general statements concerning the development of, and need for, criteria measuring military value and the results the panel expected from the application of these military value criteria during the 1991 Commission's activities.

The goal of providing these 12 questions was to introduce the focus of the research and to obtain, where possible, a consensus of opinion early in the data gathering process.

The second part of the initial questionnaire focused directly on the first four selection criteria. This part included a series of two repetitive Likert-scaled questions, two repetitive open-ended questions, and one additional open-ended question. This question series will be explained next.

First, Criterion One was presented. Then, the pertinent questions for Criterion One followed. Next, the sub-elements to Criterion One were given and the pertinent questions concerning these sub-elements were given. This question design was repeated for Criteria One thru Four. The Likert-

scaled questions requested that the panel members rate how effective Criteria One thru Four, with their respective sub-elements, were as measures of military value. Because there were four criteria and each had several sub-elements, each series was repeated four times.

Don A. Dillman, in speaking on the structure of a questionnaire, emphasized the need for open-ended questions. He defined open-ended questions as follows:

These questions have no answer choices from which respondents select their response. Instead, the respondents must create their own answers and state them in their own words. (Dillman, 1978:86)

The value of open-ended questions lies in situations where the researcher is unable to anticipate the ways a participant is likely to respond (Dillman, 1978:87). For this research, the open-ended questions were the most valuable method to "cream the tops of the heads" of the expert panel (Dalkey, 1969: 16).

For this research, responses to open-ended questions from the first-round Delphi questionnaire would serve as the basis for Likert-scaled questions in the second round. This relationship of the two Delphi questionnaires will be discussed in further detail later in this chapter.

The first eight open-ended questions focused, in a similar design as the eight Likert-scaled questions, on Criteria One thru Four and their sub-elements. After the respondent answered the Likert-scaled question, he or she was

invited to write in his or her own words how to improve the effectiveness of the specific criterion or sub-elements.

The Likert-scaled question preceded an open-ended question in couplets for each of the four criteria and respective grouping of sub-elements. The value of this design was founded on the concept that the respondent knew there was a requirement for a written response to back up the preceding Likert response. The couplets were mutually supportive and, as such, provided clarity and unity of thought to the respondents.

The final open-ended question requested that the respondents record any additional criteria they thought would effectively measure military value. This final round-one question was developed to include in the research any ideas the respondents had on improving the measure of military value that were unrelated to the DoD four criteria and their respective sub-elements.

Statistical Method. The use of opinion and preferential measurement scales, with their associative ordinal characteristic (as discussed in the previous section on the measurement scale) makes the use of parametric statistical methods ineffective (Emory, 1985:89). In data gathering of this kind, "the appropriate measure of central tendency is the median" (Emory, 1985:89). As Delphi expert Norman C. Dalkey points out, "the median response to a numerical estimate is at least as good as that of one half of the respondents" (Dalkey, 1967:9). The median was used as

the primary measure of central tendency for the panel's responses.

The median is defined as "the middle number when the measurements are arranged in ascending (or descending) order" (McClave and Benson, 1988:82). The median can be calculated as follows:

1. Arrange the n measurements [total number] from the smallest to the largest.
2. If n is odd, the median is the middle number.
3. If n is even, the median is the mean (average) of the middle two numbers (McClave and Benson, 1988:83).

The mode was chosen as a secondary measure of central tendency. In statistical analysis, the mode is defined as "the measurement that occurs with greatest frequency in the data set" (McClave and Benson, 1988:76). The researcher chose this secondary measure of central tendency as a safeguard to assist the panel in determining a consensus during the second round in case the process of consensus determination proved difficult.

Consensus Determination. With the median established as the chosen measure of central tendency, it was necessary to choose a decision rule by which a consensus could be determined. The researcher chose a primary and secondary decision rule. For the primary rule, the STRONGLY AGREE and AGREE responses were grouped together as one, as were the STRONGLY DISAGREE and DISAGREE responses. This grouping resulted in three general categories of agreement, UNDECIDED being the third category.

Then, the majority rule was applied to each question given to the panel. The majority rule required at least more than half of the respondents choosing one of the above three categories to reach a consensus.

The secondary decision rule stated that if a consensus was achieved in a single response category without grouping the like categories together, such as AGREE or STRONGLY DISAGREE, the consensus was presented for the single category. These two decision rules and the majority rule were applied for each Likert-scaled question.

Likewise, for the Delphi questionnaire process to be considered successful in gaining a consensus of opinion, a majority of at least more than half of the total questions given must reach consensus.

Before it was sent to the panel of experts, the initial questionnaire was reviewed by an Air Force Institute of Technology faculty advisor qualified in the application of the Delphi Method. This faculty reviewer provided only editorial comments. These comments were incorporated into the questionnaire prior to round one to improve the instrument's clarity. The reviewer determined the questionnaire to be answerable by an expert panel.

This initial questionnaire was mailed to the panel on May 20, 1991. The researcher received the final response to this first round on June 27, 1991. This marked the end of round one and began the preparation of round two.

Questionnaire Timing. It is appropriate to state the researcher anticipated, based on the timing of the questionnaire administration process, the expert panel would be responding to the first-round Delphi questionnaire while the Commission was deliberating and the second-round Delphi questionnaire would be conducted after the Commission's recommendations were formally announced. This questionnaire timing relationship occurred as anticipated and resulted in the panel members' knowing the Commission's recommendations prior to answering the second-round Delphi questionnaire.

Second-Round Delphi Questionnaire

The second-round Delphi questionnaire had three objectives:

1) obtain a consensus on the responses to the open-ended questions of the second round, 2) narrow the differences in responses to the 12 Likert-scaled questions of a general nature, and 3) introduce a new aspect--comments on the actual results of the now completed 1991 Commission's recommendations in light of previous Air Force recommendations to the DoD.

The Second-Round Delphi questionnaire (Appendix F) was introduced by a second cover letter and was divided into three parts. This questionnaire included a total of 50 questions. Part I presented a reiteration of the open-ended questions on the 1991 Commission Criteria One thru Four and their sub-elements from round one matched with a summary of

the panel responses. This restating of the criteria and respective sub-elements was designed to provide the panel a frame of reference concerning the context of their responses to the open-ended questions.

If a particular response was provided by a single panel member, the response was given verbatim. If a common response was provided by two or more respondents, the responses were combined and summarized in one response. This combining of responses was done to aid the respondents through round two by eliminating redundant responses and thereby reducing the overall length of the second-round questionnaire.

Part I comprised a total of 34 questions. Each question was a panel response to an open-ended question from round one. The researcher provided to the panel members the same Likert scale to record their level of agreement to the responses to each open-ended question.

The goal of this portion of round two was to gain consensus opinion on the comments to the round-one open-ended questions concerning recommendations to change Criteria One thru Four and their sub-elements to make them more effective measures of military value. Here, the panel's expertise as a whole was used as the means of evaluating the 34 responses the panel provided to the round-one open-ended questions.

In Part II, the first 12 Likert-scaled questions of a general nature from round one were again provided to the panel, along with a statistical summary of the panel's

responses. This summary included the mode and median for each. The panel was invited to re-answer these 12 questions so that further consensus, if possible, might be reached. The two main goals of this part were 1) to gain a consensus on any questions that did not reach consensus on round one and 2) to see if the panel members would change their view, in any way, on the other eight questions.

The researcher thought a panel opinion change was a distinct possibility, since the 1991 Commission had completed its recommendations just prior to round two being administered to the panel, as discussed previously. This part of round two included the identical 12 questions from round one.

Part III consisted of a subjective look at the 1991 Commission's 1 July recommendations to the President. There was no intention of reaching a consensus in part III, although the same Likert scale was applied to the four questions of this round.

There were two primary goals of this final part of round two: 1) to elicit from the expert panel members their views of how the 1991 Commission carried out its function in relation to prior USAF recommendations to the SECDEF, and 2) to determine if the USAF's decision to expand the criteria into many sub-elements and into command and mission categories may have affected the Commission's evaluation process. The information gathered from this final portion of

the second-round Delphi questionnaire was designed to serve as a basis for additional research in this area.

Chapter Summary

This chapter presented the methodology used to collect and analyze the data pertaining to the research goal and investigative questions of Chapter I. The method included the three phases of conducting a literature review, administering the research instrument, a series of two Delphi questionnaires, and analyzing the findings from the application of the Delphi questionnaires to the findings from the literature review.

Also, the chosen measurement scale, the statistical analysis methods and the decision rules were presented. Chapter IV will present the findings and analysis of the application of this methodology.

Chapter IV. Findings and Analysis

Chapter Overview

This chapter examines the results of the data gathering phases outlined in the methodology of Chapter III. The methodology involved three phases: conducting a literature review; administering the research instrument, a series of two rounds of Delphi questionnaires; and analyzing the data obtained from the literature review in light of the data obtained from the application of the Delphi questionnaires.

To assist with the interpretation of the large amount of data in this chapter, the following organization will be used. First, in Data Collection, the Delphi process and demographics of the panel members are presented to establish the credibility of the research instrument. Second, the round-one data presented in Appendices D & E are summarized. Third, the round-two data of Appendix G are summarized. For both Delphi rounds, these data are presented with statistical values. Then, each Delphi question is related back to the thesis investigative questions. Lastly, the third phase of the methodology, an analysis of the data gained from the literature review in light of the data gained from the application of the Delphi method, is presented in the section Summary Analysis Organized by Investigative Question.

The primary consensus determination for both Delphi rounds was based on grouping the STRONGLY AGREE and AGREE and the STRONGLY DISAGREE and DISAGREE responses together,

respectively. This grouping resulted in three general categories of agreement, UNDECIDED being the third category. Then the majority rule was applied. If a consensus was achieved in a single response category without grouping the like categories together, such as the panel members' achieving a consensus in the DISAGREE category, the consensus is presented for that single consensus category.

The chapter concludes with an assessment of the success of the application of the Delphi method in providing a conclusive response.

Data Collection

Round One. The researcher mailed the First-Round Delphi Questionnaire to the 12 members of the expert panel on May 20, 1991. The cover letter to this initial round included a request to complete the questionnaire and return it as soon as possible. The first questionnaire was received by the experts at the time many were deeply involved in providing backup information for closure activities. As a result, delays in the response process occurred.

Follow-up telephone calls by the researcher assisted the response process and all but one of the First-Round Delphi questionnaires were returned by June 27, 1991. This date marked the end of round one with 11 of the 12 questionnaires returned. The response rate for round one was approximately 91 percent.

Round-One Findings

Panel Demographics. Round one included the request for demographic information on each panel member. A summary of this information, along with an analysis of select portions of the panel demographics, is provided as Appendix C. This information is presented in a random order to ensure non-attribution. Also, some demographic information requested by the researcher, including the Air Force Specialty Codes (AFSC) and duty titles, has been withheld from this research report for the same reason. The rationale for withholding this information was to eliminate any possibility that a respondent's identity might possibly be disclosed, based on the identifying characteristics of AFSCs or specific duty titles in the small group of personnel responsible for Air Force closure/realignment issues.

Panel Demographics Summary. The panel was comprised of 11 military members and one civilian. This composition included one colonel, eight lieutenant colonels, two majors, and the civilian. The one colonel participated in round two only and did not complete the demographics sheet, so no other demographic information on the colonel (other than military status and rank) was included in Appendix C.

The panel members had a mean service time in the DoD of 17 years and one month, a mean time in their present positions of one year and 11 months, and a mean time of direct involvement with base closure/realignment activities of two years. All respondents were actively involved in the

1991 closure/realignment process and seven of the 11 had been involved in 1988 closure activities. The summary and analysis of the panel members' demographic information concluded the panel members collectively represented a body of Air Force personnel highly experienced in base closure/realignment activities.

First Delphi Questionnaire. Based on the non-response of one panel member during round one, it was decided for both Delphi rounds that the determination of a consensus, delineated in Chapter III as the majority rule, must be based on the number of responses for each question. For example, in round one there were 11 responses to most questions. For a consensus to be obtained, more than half of the responses (in this case six) would be required for a consensus to be achieved in a specific response category. Also noted was that some respondents failed to answer some of the survey questions. It is not known whether this was a conscious decision to skip these questions or an inadvertent omission.

A summary of the responses to the questions of round one is contained in Appendices D and E. Appendix D presents, in matrix format, the frequency of responses for the Likert-scaled questions and the determination of whether or not a consensus was reached. The non-responses are represented by omissions in the Appendix-D matrix.

Of the first 12 questions of a general nature, eight reached consensus. Question numbers 3, 6, 8, and 10 failed to reach consensus on the first round. For all four of these

questions not reaching a consensus, the existence of a single UNDECIDED response determined the lack of agreement. A consensus achievement rate of approximately 66 percent was attained for these 12 first-round questions of a general nature. In an effort to attain further consensus on this segment of the research, the researcher decided to present all 12 of these questions, with their first-round responses, to the panel during round two.

The second matrix in Appendix D represents the responses to the eight Likert-scaled questions on the 1991 Criteria One thru Four and their sub-elements, and their respective effectiveness in measuring military value. Again, the consensus determination was based on the number of responses to a given question, because non-responses were also received on this segment of the first-round questionnaire.

All eight of these questions reached consensus on the first round. The panel majority expressed the view that these four criteria and their sub-elements were effective in measuring military value.

The researcher interpreted this consensus as a general level of agreement because the panel also offered 47 comments to the open-ended questions included in this section concerning how to improve the effectiveness of these same four military value criteria and their several sub-elements. The researcher determined it was not necessary to present these eight questions again on the second round. Rather, the research effort shifted to the 47 responses to the

open-ended questions. The combined consensus achievement rate for all 20 round-one Likert-scaled questions was 80 percent.

Appendix E represents a verbatim listing of the responses to round one's nine open-ended questions. The actual question given to the panel, with its question number retained, precedes the panel's responses. This was done to assist the reader by providing a reference to the responses given. Common responses are also listed in Appendix E.

These comments to the open-ended questions were varied in their perspective of how each panel member would change Criteria One thru Four and their sub-elements to render them a more effective measure of military value. The researcher found that many of the responses showed a great degree of insight and depth of thought on the part of the panel members concerning how they would improve the effectiveness of these four military value criteria, were it in their power to do so.

There were several similar comments and some comments that were directly opposed to each other. Also, the criteria sub-elements received more responses than did the criteria themselves. The panel members' comments substantiated the panel members' high degree of expertise on the base closure/realignment process and provided direct recommendations on how to improve the measure of military value.

The next step of the methodology required the panel to offer a level of agreement to the round-one open-ended question responses.

Round-Two Preparation. The chosen statistical analysis from the research methodology (the calculation of the median and the mode) was performed and responses to the open-ended questions were compiled. This compilation of panel responses was accomplished so that the panel members could express their level of agreement to the responses. The Second-Round Delphi Questionnaire was then developed for round two. By summarizing and combining common panel responses, the researcher compiled 34 responses to the open-ended questions for use in the second Delphi round.

Round-Two Findings. The researcher mailed the second Delphi questionnaire to the 12 expert panel members on July 3, 1991. A copy was purposely sent to the one panel member who failed to respond to round one in the hope that this member would respond in round two. This proved prudent as the panel member did respond. The researcher chose August 2, 1991 as a response deadline date. This deadline was chosen to ensure the punctual completion of the research, while providing the panel with the maximum response time possible. By this date, nine responses were received. The round-two response rate was 75 percent. The combined response rate for rounds one and two was 83 percent, with 20 of the total 24 questionnaires returned.

A summary of the responses to the questions of round two is provided in Appendices G and H. Appendix G presents in matrix format the frequency of responses for the Likert-scaled questions. Appendix G also presents the determination of consensus achievement. Non-responses are again represented by omissions in the Appendix G matrices. The majority rule was again used for consensus determination. The same respondent numbers from round one were retained for the purpose of maintaining control during the response process. For example, respondent number five was the same respondent on both Delphi questionnaires, but respondent number six answered only the first questionnaire and therefore appears only on the round-one results of Appendix D.

The first 34 questions of this second-round Delphi questionnaire asked for opinion on the panel's responses to the open-ended questions of round one. These questions represented how the panel would change the four criteria and respective sub-elements to improve the effectiveness of measuring military value. The purpose of this second round was to elicit the panel members' expert opinion of how well the panel's proposed criteria changes would improve the effectiveness of measuring military value.

Of the 34 questions of the second Delphi round, 31 reached a consensus. Question numbers 1g, 2a, and 4b, did not reach a consensus. The responses represented a consensus achievement rate of 91 percent for these 34 questions.

The second matrix in Appendix G for Part II of the second-round questionnaire presents the panel's responses to the 12 questions of a general nature. These questions were repeated from round one for two reasons. These were: 1) to gain consensus on the four questions that did not reach consensus during round one (question numbers 3, 6, 8, and 10), and, 2) to see if the panel would change its view in any way on the other eight questions. The researcher thought this a possibility since the 1991 Commission had completed its recommendations the week prior to the round two questionnaire being sent to the panel.

Eleven of the identical 12 second-round questions of a general nature reached consensus on the second round. This was a consensus achievement rate of 91 percent and an improvement of 25 percent compared to round one. This time, question numbers 3, 6, 8, and 10 reached consensus but question number 12 did not.

The final four questions of Part III did not require a consensus opinion. These questions were developed in light of the 1991 Commission's closure/realignment recommendations to the President in relation to the Air Force's prior recommendations to the SECDEF. These questions were developed to elicit expert opinion on whether the Air Force's decision to break the criteria into many sub-elements and command and mission categories may have affected the Commission's evaluation. The questions were also intended to act as a basis for future research. Although there was no

intention of achieving consensus on these questions, the responses to these four questions are presented in the last matrix of Appendix G and will be discussed later in the chapter.

Forty-two of the possible 46 questions of round two achieved consensus. The combined consensus achievement rate for all 46 questions of round two was 91 percent. The total combined consensus achievement rate for both the round one and round-two Likert-scaled questions was 87 percent.

Appendix H represents unsolicited written responses the panel members provided to Part I of the second-round Delphi questionnaire. Although the researcher purposely designed only Likert-scaled questions for round two, several panel members chose to add comments on the questionnaire margin after selecting their Likert-scaled response. As a reference source for future research on this topic and as evidence of the panel members' interest and expertise on the closure/realignment process, the researcher has elected to publish these unsolicited comments referenced to their respective criterion and Likert-scaled question. No other analysis was performed.

Statistical Findings. The statistical calculations for the questionnaire responses, grouped with their respective investigative questions, are presented in Appendix I. A discussion of the findings of these responses, by investigative question, is now presented.

Investigative Question One Findings. The first investigative question asked "Are the 1991 Base Closure/Realignment Criteria One thru Four effective in determining military value?" and was designed to address the research problem by assessing, by the panel's expert opinion, the first four selection criteria's effectiveness in measuring military value.

Of the 13 Delphi questions supporting this investigative question, 12 reached consensus on their final round, whether the first or second round. This represented a consensus achievement rate of 92 percent.

The panel agreed that the mission diversity of the several military departments made it difficult to develop closure/realignment criteria that can be applied to all bases. Though this was an all Air Force panel, its members expressed the opinion that inter-service diversity was a challenge to developing effective criteria.

The panel strongly agreed that military value warranted priority consideration among all other criteria. The panel expressed a view similar to both the 1988 Commission and the DoD's concurrence with the 1988 Commission's recommendation that military value warrants priority consideration.

The panel agreed that military value was easy to determine through the application of Criteria One thru Four. Also, the panel agreed, generally speaking, that the 1991 Commission's Criteria One thru Four effectively assessed military value. This finding was interesting since the panel

provided 47 separate responses to open-ended questions designed to elicit improvement recommendations to the criteria.

In sharp contrast, the panel did not reach consensus on whether the end result of the current round of closure/realignment actions will be a more effective, mission ready Air Force. On this question the panel shifted from an AGREE consensus on round one to a non-consensus on round two. This shift could possibly be attributed to the reduction of respondents from 11 on round one to nine on round two, since two of the round-two non-respondents had selected AGREE to this question in round one.

The panel reached an AGREE consensus on all eight questions from round one concerning whether the four military value criteria and their sub-elements were effective measures of military value. These consensus agreements were not as significant as were the consensus to the open-ended questions, since the latter were the panel's opinion of the ways to improve the criteria's effectiveness. This finding demonstrates that although the panel members were of the consensus opinion the criteria and sub-elements were generally effective as measures of military value, improvements are possible and they provided 47 improvement recommendations.

Investigative Question Two Findings. The second investigative question, in two parts, was the corollary to investigative question one. This question asked "Are other

criteria required to provide the DoD and the Commission a more effective means of determining military value? If so, what are the other criteria?" These two questions were designed to address the research problem by asking the panel if other criteria were needed to provide the DoD and the Commission a more effective means of measuring military value.

There were 37 total Delphi questions from rounds one and two in support of this investigative question, the largest number for any of the investigative questions. Thirty-four of these were the panel's assessment of their own responses to open-ended questions. Of these 37, 34 reached consensus, all on the second round. A consensus achievement rate of 91 percent was experienced for this investigative question.

The panel reached an AGREE consensus that the use of the approved 1991 Criteria would have changed the results of the 1988 Commission's decisions. The panel also agreed that not all of the concerns that surfaced in their respective commands were adequately considered and addressed during the DoD's 1991 base closure evaluation process. The panel also agreed the 1991 Closure Commission process properly considered the impact closure/realignment actions had on non-USAF tenants. The expert panel's recommended improvements to the four military value criteria and associated sub-elements follow.

Improving the Effectiveness of Criterion One and its Sub-elements. Criterion One read as follows:

The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force. (U.S. Federal Register, 1991:6374)

There were 13 responses to open-ended questions addressing Criterion One and its sub-elements, twelve of which reached consensus. This was a consensus achievement rate of 92 percent. These findings will now be presented as they appeared on the second-round Delphi questionnaire. The criterion will be addressed first; then its respective sub-elements will be discussed.

The panel agreed that "future mission requirements" should be defined as a preamble to Criterion One. Further, the panel also agreed that it was more appropriate to focus only on the requirements and size of the DoD's total force after all closure/realignment actions are completed, rather than look at present requirements.

In response to questions addressing Criterion One sub-elements, the panel agreed the sub-element measuring how adequately the installation supported its primary activities would better be measured in various degrees of effectiveness. The term "adequate," according to the panel, was not an exact term for this measure.

The panel agreed the question "Is a flying operation important to the mission?" should be incorporated as part of the operational effectiveness sub-element.

The panel also agreed the words "or requires" should be added after "supports" to the sub-element addressing whether

the installation maintained force structure for a flying activity. This recommendation resulted in the sub-element now reading "Does the installation have force structure which supports or requires a flying activity." This improvement recommendation included the respondent-generated example of Pope AFB, which supports the XVIII Airborne Corps, and as such, maintains force structure positioned to provide a service or to integrate with other DoD requirements.

The panel agreed the question "Does an active runway enhance the operational effectiveness of the mission?" should be included as a sub-element. No consensus was reached on whether the existence of a runway as an unnecessary expense should be included as a sub-element.

The panel also agreed if the existing mission is remaining in the Air Force, the questions "Is it more cost-effective to consolidate at a different location?" and "Is the mission continuing at the same, smaller, or an expanded level?" should be addressed.

The panel members were in agreement that Trained Personnel Requirements (TPR) should be defined for FY 92-97, prior to asking whether TPR for the base's primary mission are remaining in the Air Force.

The panel reached a consensus of STRONGLY AGREE in adding to Criterion One's sub-elements the question "Does the installation have access to the proper ranges, airspace, and other forces required to support the mission requirements for

training and employment of the forces programmed to reside at the base."

The panel also strongly agreed the sub-element "Does the base have an active runway?" should be expanded to read "Does the base have an active runway that will support the projected missions?" A second addition to this sub-element, reached by an AGREE consensus, was the addition of the question "Is there a sufficient number of active runways at the installation?"

Improving the Effectiveness of Criterion Two and its Sub-elements. Criterion Two stated the following:

The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations. (The U.S. Federal Register, 1991:6374)

There were nine responses to open-ended questions addressing Criterion Two and its sub-elements. Eight of these achieved consensus, which reflected a consensus achievement rate of 88 percent.

The panel did not reach consensus on the recommendation that "potential receiving locations" should be removed from Criterion Two.

The needed addition of "ranges" as an availability requirement for this criterion was agreed on by the panel.

The panel strongly agreed that the qualifying statement "What expense is associated with the facility in order to bring it up to Air Force standards?" should be incorporated into Criterion Two.

For the recommendation "Can any guarantees be obtained from the local civil authorities to improve the current situation," the panel formed a DISAGREE consensus.

The panel recommended several improvements to the Criterion Two sub-elements. The panel agreed that several statements should be added. Both the "compatibility of projected airspace with other missions" and the "proximity of ranges and airspace" were agreed additions. These recommended additions resulted in partial duplicity with Criterion One and its sub-elements.

The panel agreed that facilities compatibility should be added to the sub-element on facilities capacity.

Also receiving an AGREE consensus was the idea that the facilities condition should be referenced to a specified standard and the expected cost to bring all facilities up to the highest required condition.

The final response to the Criterion Two sub-elements achieved an AGREE consensus in asking the question "Can the MAJCOM mission (based on force structure) be done effectively without these facilities?"

Improving the Effectiveness of Criterion Three and its Sub-elements. Criterion Three read as follows:

The availability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations. (U.S. Federal Register, 1991:6374)

Criterion Three and its sub-elements received three responses to their open-ended questions. Two responses

addressed the criterion; one question addressed the sub-elements. All three reached a consensus.

Two responses recommended this criterion be deleted because 1) "It has very low relevancy to the current mission," and 2) "It is redundant to other measures stipulated in the previous criteria." Both of these panel recommendations achieved a DISAGREE consensus.

The final response in this section was given to the two Criterion Three sub-elements. The panel reached a consensus of agreement that "contingency" and "mobilization" should be divided into two distinct sub-elements, rather than grouped together. This recommendation, if followed, would result in the three sub-elements of "contingency," "mobilization," and "future force requirements."

Improving the Effectiveness of Criterion Four and its Sub-elements. Criterion Four stated the following:

The cost and manpower implications (U.S. Federal Register, 1991:6374).

There were six responses to open-ended questions addressing this final Criterion Four and its sub-elements. Five of the six reached consensus. These responses represented a consensus achievement rate of 83 percent.

The panel achieved a consensus in disagreeing to the response that this criterion was "not a measure of military value and should not be included with the first three criteria."

The panel did not reach a consensus on the response that stated "Manpower is a cost and therefore is already considered."

The panel did reach a consensus of agreement that Criterion Four's sub-elements "measure cost/savings and bodies" and that the Return on Investment category was a better placement category (Return on Investment and Impacts were the two other criteria categories, after Military Value). This finding of accepting the use of Criterion Four while rejecting the use of its sub-elements proved inconclusive.

The panel reached a STRONGLY AGREE consensus that the Cost of Base Realignment (COBRA) model should not be used in assessing the cost implications of base closure/realignment actions.

The panel also agreed that the net steady-state savings sub-element should be deleted and that net present-value "provided a common measure of comparison."

The final response addressed the last sub-element-- manpower reductions. The panel agreed this sub-element "should be expanded to specify end-strength officers/enlisted/civilians of projected force structure/basing before closures versus end-strength following closures, exclusive of unrelated force structure changes."

Other Improvements to Measuring Military Value.

The final open-ended responses from round two were given to

the panel members to elicit any other criteria additions they would make, unrelated to Criteria One thru Four, to improve the effectiveness in measuring military value.

During round one respondent number 11 responded to this question and provided three responses. In round two these three responses were given to the full panel for consideration. All three of these responses reached an AGREE consensus on round two. The panel agreed the application of the two questions "What effect does this base have on regional support of the mission?" and "What effect does this base have on worldwide support of the mission?" would improve the measure of military value.

The remaining response asked the question "Is this base's closure dependent upon other bases staying open to cover the mission requirements?" This response also received a consensus agreement from the panel.

This preceding section of responses to the supporting Delphi questions to Investigative Question Two produced the largest number of panel responses. The panel as a whole had many varied ideas on improving the military value measurement process and agreed on a high majority, 91 percent, of those improvement recommendations.

Investigative Question Three Findings. Investigative Question Three asked "Is the required public comment period an effective way to revise the selection criteria for base closure/realignment?" This question was designed to address the research problem by focusing on the legislatively-

mandated public comment period to determine if, in the opinion of the expert panel, this use of the public comments was an effective means of refining the selection criteria. There was one supporting Delphi question. The panel members reached a consensus disagreeing that this public comment period was an effective way to refine the criteria. The panel members expressed their view, one member short of unanimity, that the public comment period was not effective in revising the selection criteria.

Investigative Question Four Findings. This investigative question asked "Will the application of the four criteria measuring military value coincide with the Department of Defense's force structure plan, and the subsequent return of forces from overseas?" Investigative Question Four supported the research problem by focusing on the need to reduce the basing structure because of reductions in the force structure.

Investigative Question Four addressed the closure/realignment process in relation to the force structure plan and the return of forces from overseas as a result of the force structure reduction. There were two supporting Delphi questions.

The panel reached an AGREE consensus that the four military value criteria were a credible connection to the force structure plan. Conversely, the panel disagreed when asked if the base closure/realignment actions were proceeding according to USAF plans to return forces from overseas as a

result of the reduction of the perceived threat from the Warsaw Pact.

Investigative Question Five Findings. This final investigative question asked "Will the application of the four criteria measuring military value coincide with the USAF's potential creation of composite wings?" The composite wing concept was previously discussed in Chapter II as an element of the DoD force structure plan. This question addressed the research problem by looking at the potential creation of USAF composite wings in relation to reductions in the basing structure. There was one supporting Delphi question.

The panel disagreed that the application of the closure criteria will directly enhance the creation of future composite wings, provided the composite wing test is successful. Only one respondent chose an AGREE response on round two.

Questions Not Requiring a Consensus Opinion. The final four questions, included as Part III of the Second-Round Delphi Questionnaire, were developed in light of the 1991 Commission's recommendations to the President. Although there was no intention of reaching a consensus, these questions were included to 1) elicit from the expert panel members their views of how the 1991 Commission carried out its function in relation to prior USAF recommendations to the SECDEF and 2) to determine if the USAF's decision to expand the criteria into many sub-elements and into command and

mission categories may have affected the Commission's evaluation process. The final reason for including these four questions was to provide a potential starting point for future research on this topic.

All nine round-two respondents either strongly agreed or agreed that "the 1991 Commission properly considered Air Force recommendations, as submitted by the Defense Secretary."

The second question asked if the Air Force's expansion of the eight selection criteria into many sub-elements led the 1991 Commission to manage the USAF recommendations at too micro a level. Five respondents strongly disagreed or disagreed, three were undecided, and one agreed.

The third question asked if "the (1991) Commission introduced new and qualitative criteria that influenced decisions that differed from Air Force recommendations." To this question, six panel members strongly disagreed or disagreed, two were undecided, and one agreed.

The final question asked if "separating the Air Force installations into command or mission categories constrained the Air Force and/or 1991 Commission from recommending consolidation (realignment) of missions at an installation." To this question, six respondents disagreed, two were undecided, and one agreed. This single panel member in agreement further expressed that the separation of the USAF bases into command or mission categories affected both the Air Force and the Commission.

Summary Analysis Organized by Investigative Question

The research methodology of Chapter III outlined three phases. Phase one was the literature review. The literature review was accomplished in Chapter II. Phase two was the administration of the research instrument: a series of two Delphi questionnaires. Phase two was defined in Chapter III; its findings were presented in this chapter. Phase three was an analysis of the data obtained from the literature review phase in comparison to the data gained from the application of the phase-two Delphi method. This final methodology phase, organized by investigative question, follows.

Investigative Question One. This investigative question asked if the present criteria were effective as measures of military value. The literature identified that military value was to be the priority consideration to be used both by the DoD and the Commission in recommending bases for closure/realignment. The basis for measuring military value was the first four selection criteria. The two Delphi questionnaires were designed to determine the effectiveness of the application of these military value criteria.

The findings of the Delphi process indicated that the panel agreed generally that the four criteria and their associated sub-elements were effective in measuring military value. The panel offered, however, 47 improvement recommendations.

This analysis concludes the criteria were generally effective measures of military value, but specific

improvements are recommended for consideration during future selection criteria revision.

Investigative Question Two. This investigative question asked if other criteria were needed to more effectively measure military value and if so, what were the other criteria. The literature review identified the several changes that occurred to the criteria beginning with their origin in SECDEF Carlucci's May 3, 1988 charter and continuing to the current 1991 Commission activities. The two rounds of the Delphi method resulted in the researcher receiving 47 criteria improvement recommendations. These 47 recommendations equated to 34 distinct round-two questions. Of these 34, the expert panel members reached a consensus opinion that implementing 27 would result in a more effective measure of military value.

This analysis concludes that, in the consensus opinion of the panel of experts, 27 recommended criteria changes are recommended for consideration.

Investigative Question Three. This investigative question asked if the public comment period was the right method of revising the selection criteria. The literature review detailed the legal requirement for a 30-day public comment period prior to the DoD finalizing the proposed selection criteria. As shown in the literature, the most significant criteria changes affecting the measure of military value occurred as a result of the 169 public comments given during December 1990 and January 1991.

These criteria changes included the following:

1. Replacing the phrase "Department of Defense" in Criterion One with "the Department of Defense's Total Force," thereby including all active, Guard and Reserve forces.
2. Adding the phrase "and associated airspace" as a key determinant with land and facilities in Criterion Two.
3. Adding "the ability to accomodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations." This criterion previously read "receiving locations" prior to the change (U.S. Federal Register, 1991:6374-6376).

The panel members reached a unanimous consensus that the public comment period was not an effective way to revise the selection criteria for base closure/realignment.

This analysis concludes, in the unanimous consensus opinion of the panel, the legislatively-mandated public comment period was not an effective method to revise the selection criteria.

Investigative Question Four. This investigative question asked if the application of the presently constituted military value criteria coincided with the DoD's force structure plan and the resulting return of forces from overseas. The literature review outlined the reduction of the U.S. Military force structure and the subsequent need for a reduction in the basing structure, primarily as a result of the reduction in the perceived threat from the Warsaw Pact. The DoD-published literature also identified the four

military value criteria as the critical connection to the force structure plan.

The panel members reached a consensus of agreement that the four military value criteria are a credible connection to the force structure plan. In contrast, the panel reached a consensus that base closure/realignment actions were not proceeding according to USAF plans to return forces from overseas as a result of the reduction of the perceived threat from the Warsaw Pact.

This analysis concludes the criteria, according to the expert panel, are a credible connection to the force structure plan, but the return of forces from overseas is not proceeding according to that plan. The researcher could not determine how the return of forces from overseas may have been adversely affected by 1991 closure/realignment actions.

Investigative Question Five. This investigative question asked if the application of the presently constituted military value criteria coincided with the USAF's potential creation of composite flying wings. The literature review presented the USAF-proposed creation of composite flying wings, beginning at Mountain Home AFB in Idaho. The SECDEF's 1991 recommendations to the Commission included the preservation of Mountain Home AFB in the basing structure for this purpose.

The Delphi technique reached a consensus on both rounds that the application of the four military value criteria did not "enhance the creation of future composite wings."

This analysis concludes the four military value criteria did not enhance the potential creation of composite wings. Because the researcher has no data to back up why the respondents disagreed, this is an area recommended for future research.

An Assessment of the Delphi Method as the Research Instrument

Delphi was chosen as the research instrument because the nature of this research design was to gain expert opinion. The benefits Delphi provides, including anonymity, controlled feedback, and statistical group response are designed overcome the drawbacks of a face-to-face discussion of an expert panel. These drawbacks include dominant individual influence, noise, and group pressure to conform. (A more in-depth discussion of the Delphi method is presented in Chapter III.) The researcher's assessment of how well the application of Delphi succeeded in providing a conclusive response is presented next.

The First-Round Delphi Questionnaire contained 20 consensus-soliciting questions, 16 of which reached consensus. The Second-Round Delphi Questionnaire contained 46 consensus-soliciting questions (with 12 questions repeated from round one), 42 of which obtained a consensus. There was an increased shift towards consensus in round two. The two Delphi questionnaires combined reached consensus on 58 of the total 66 questions. These responses equated to a total

consensus achievement rate of 87 percent for the two Delphi rounds.

Thirty-four of these total questions were the panel members' responses to the round-one open-ended questions. The researcher developed the remaining 32 questions.

The possibility always exists that a researcher unintentionally limits objectivity in a study through the wording of questions. Because the panel generally agreed in round one that the four criteria with their associated sub-elements were effective in measuring military value, this research effort shifted in round two to focus more directly on Investigative Question Two.

The purpose of Investigative Question Two was to gain the expert panel's recommendations of how to improve the four selection criteria's measure of military value.

The largest number of supporting Delphi questions, 37 total, were linked to Investigative Question Two. Thirty-four of these were the panel's criteria improvement recommendations. The researcher compiled and returned these 34 responses to the panel on round two and asked the panel to provide their level of agreement whether the adoption of these recommendations, as new criteria or modifications to criteria, would improve the measure of military value.

The Delphi process reached a conclusive response for these 34 Delphi questions of the panel's own responses by obtaining a consensus achievement on 31 of the 34 questions, an achievement rate of 91 percent.

The researcher concludes Delphi was successful in providing a conclusive response to the five investigative questions.

Chapter Summary

This chapter examined the results of the data gathering phases which were outlined in the methodology of Chapter III. These three phases were: conducting a literature review, administering the research instrument; a series of two Delphi questionnaires, and analysing the data obtained from the literature review in light of the data obtained from the application of the Delphi questionnaires. The chapter concluded with the researcher's assessment of the degree of success of the Delphi method in providing a conclusive response.

Chapter V: Conclusions and Recommendations

This thesis addressed the research problem of a comprehensive assessment of the effectiveness of the DoD's 1991 base closure/realignment criteria. The assessment was conducted from an Air Force perspective and used the Delphi method of eliciting the expert opinion of a select group of Air Force members. The research scope specifically focused on the four criteria that measure military value. Military value had been determined, both by the 1988 Commission and subsequently by the DoD, as being the "priority" consideration during closure/realignment activities (Department of Defense Base Closure And Realignment Report, 1991:23).

The research was limited to an assessment, from an Air Force perspective, of these four military value criteria. No effort was made to determine the expert opinion of the other U.S. military services. A second limitation required the panel members to be highly knowledgeable and active in current closure/realignment activities within their command organizations.

In order to answer the research problem, a three-phase methodology was developed. Phase one involved conducting a literature review to understand the development of the selection criteria measuring military value. Phase one served as the foundation for phase two: the application of

the research instrument--two Delphi questionnaires. Phase three compared the findings of phase one and phase two.

Chapter Overview

The application of this three-phase methodology provided the researcher several conclusions from the expert panel. Foremost among these was the conclusion that the four selection criteria were generally effective measures of military value, but many selection criteria improvements were recommended. The researcher also reached several conclusions as an indirect result of applying the methodology. An analysis of these conclusions led the researcher to several recommendations. This chapter presents these conclusions and recommendations. Finally, the researcher developed four recommendations for future research, which are also presented.

Conclusion One

Military value is difficult to quantify and is based on many concepts, as evidenced by the varying categories, determinants, and sub-elements applied by the 1988 and 1991 Base Closure/Realignment Commissions. The 12 expert panel members of this research study recommended 34 improvements to the present criteria designed to measure military value. The panel members reached consensus that implementing 27 of these improvement recommendations would improve the effectiveness of measuring military value during Base Closure/Realignment Commission deliberations.

Recommendation. These 27 improvement recommendations (Appendix J) should be given serious HQ USAF and Office of the Secretary of Defense (OSD) consideration during future selection criteria revision. The expert panel provided valuable insight that should improve the effectiveness of the methods for measuring military value, the primary factor for designing the future basing structure of the U.S. Air Force.

Conclusion Two

Revision of the DoD-recommended closure/realignment selection criteria was conducted by unscientifically-controlled responses from the public without the benefit of known background or biases.

The expert panel reached the unanimous consensus that the legislatively-mandated public comment period was not an effective method to revise the criteria for the selection of U.S. military bases to be closed or realigned.

Recommendation. The researcher recommends that new legislation be considered that would require that the Commission, or another non-partisan body, be responsible for selection-criteria refinement, rather than trusting to public opinion and the potential for the introduction of public bias associated with base closures.

Under this system, a joint Congressional vote would still be used for rejection of the proposed criteria after the Commission concluded its criteria revision recommendations. The researcher believes the experience of

each Commission could be a valuable resource for criteria revision, rather than relying on public comments.

Conclusion Three

This research was limited to an assessment, from an Air Force viewpoint, of the effectiveness of the measure of military value as the primary consideration during the Base Closure/Realignment Commission process. The recommendations were Air Force specific in application.

Future Research Recommendations. The researcher recommends similar research studies be conducted by students of DoD policy and these studies be conducted with expert panel members from the other military services. The results of these studies could then be provided to Army, Navy, and Marine Corps service headquarters.

A comparison and contrast should be made between the findings of this Air Force research study and the similar studies of the other military services.

Apply the researcher's methodology of this thesis to studies in other services in the field of base closure/realignment. These studies should be conducted before the 1993 Commission criteria are established to ensure a commonality of purpose and assumptions.

Conclusion Four

The military value criteria did not "enhance the creation of future composite wings, provided the composite wing test is successful."

Recommendation. The closing and realigning of U.S. military bases must be predicated on emerging operational concepts that address organizational changes caused by force drawdown and changing threats. The Air Force must explicitly define these emerging concepts if they will affect the size and composition of forces that will use bases under consideration for closure.

Conclusion Five

While the panel agreed the four military value criteria were "a credible connection" to the DoD force structure plan, they did not agree that base closure/realignment actions were proceeding according to USAF plans to return forces from overseas as a result of the reduction of the perceived threat of the Warsaw Pact nations.

Future Research Recommendation. A study should be conducted to determine how the 1991 base closure actions that adversely affected the return of overseas forces can be corrected.

Conclusion Six

The methodology of using non-attributable review and critique of proposed base closure/realignment criteria may provide more in-depth recommendations, rather than conformity to bureaucratic requirements. Non-attribution, conducted under controlled research methods, provides a non-bureaucratic response.

The expert panel members for this research were experienced in understanding and applying the selection criteria and were eager to be involved on a non-attribution basis. The members expressed in marginal notes to the questionnaires that there had been pressure to conform during the prior Air Force closure/realignment recommendation process. Two respondents welcomed the opportunity to respond by non-attribution via the Delphi method.

Recommendation. The pressures of conformity and influence were present during prior Air Force base closure/realignment recommendations to the DoD as expressed by at least two respondents. Accurate service inputs to DoD closure/realignment recommendations are essential. If these service inputs are created under influence and pressure to conform, the value of the inputs is diminished. The researcher recommends that preparation of USAF inputs for future closure/realignment actions be developed by broad review of non-attributable recommendations.

Conclusion Seven

The closure criteria applied in 1988 differed from the 1991 criteria. The differences were significant enough that the panel members agreed by consensus that had the 1991 criteria been used in 1988, the 1988 Commission recommendations would have been different.

Recommendation. In an effort to refine the base closure/realignment selection criteria significant changes

were made between 1988 and 1991. Any future criteria changes should be considered in relation to the results the application of the criteria previously had on closing/realigning military installations.

Summary

This research presentation began with a discussion of the dramatic changes that are occurring in the beginning of the decade of the 1990s. The fall of the Berlin Wall marked the beginning of a thawing of East-West relations. The course and end of this detente are not known. What is known is the perceived Soviet threat to the U.S. has diminished to the extent that the U.S. military force structure can and should be reduced.

As the force structure is reduced, a commensurate reduction in the basing structure must also occur. The determination of military value during Base Closure/Realignment Commission proceedings may prove to be the most significant event of the decade in establishing the future military posture of the U.S. The improvement recommendations formulated by the expert panel of this research study provide insight into how the measure of military value might be made more effective. The researcher believes the panel's recommendations must be considered as a baseline for USAF input to the criteria used for future Base Closure/Realignment Commission activity.

Appendix A: First-Round Delphi Questionnaire

From: AFIT/LSG (Capt Gorgoni)

20 May 1991

Subject: Research Study--1991 Commission on Base
Closure/Realignment

To: Research Panel Member

1. Thank you for your willingness to participate with a small group of other USAF members as a panel of experts regarding base realignment/closure actions.

2. This research focuses on the closure criteria as formalized in the U.S. Federal Register (56 FR 6374), dated 15 February 1991. The purpose is to assess the effectiveness of the first four criteria in determining military value. The goal of this research is to provide the Department of the Air Force suggested changes or additional criteria that, in your expert view, would make the criteria more effective in determining military value during future closure commissions.

3. The panel for this research consists of approximately 15 members who are currently working realignment/closure actions at major air command headquarters. A critical part of the research requires expert response to specific questions. The Delphi research method, a proven research tool, will be used to evolve a consensus. The Delphi method is described in Attachment 1. Keep the Delphi discussion for your future reference. I expect this will require that you complete a minimum of two and a maximum of three questionnaires. Each questionnaire should take no longer than 20 minutes of your valuable time.

4. Please complete the attached panel demographics sheet (Atch 2) and Delphi questionnaire (Atch 3) and return both in the envelope provided, as soon as possible. Upon receipt, I will process all responses and return a second questionnaire with the group's findings for your further consideration and comments. The demographics portion will be needed only once and will be used for response analysis. Although all responses will be identified to the panel, no specific response will be associated to any panel member.

5. If you need to contact me, please phone DSN 785-8411 and leave your name and DSN or commercial number. Or, if you prefer, phone me directly at home at 513-235-0706. Thank you.

DOUGLAS P. GORGONI, Capt, USAF

3 Attachments
1 Delphi Discussion
2 Panel Demographics
3 First Questionnaire

Delphi Discussion

(Note: keep this page for reference during future iterations)

1. This research has its foundation built on gaining expert opinion by a consensus of panel members at major air command headquarters who are experienced in base realignment/closure activities. The method chosen to accomplish this is the Delphi Method.

2. Traditionally, the means by which to gain expert opinion is by face-to-face discussion. In such an undertaking, the participants are brought together to address the issue. This method, though perhaps more desirable than one expert making a decision, has several drawbacks. These drawbacks include (1) dominant individual influence, (2) noise, or the phenomenon of the group discussions dealing more with individual interests than with solving problems, and (3) pressure from the group to conform. The proper use of the Delphi Method overcomes these three drawbacks.

3. These drawbacks are significantly reduced through Delphi since the data gathering is accomplished without bringing the panel members together. Typically, a questionnaire is administered to the members through the mail. Anonymity is achieved through the use of communication that is not attributed with any expert's name. Using the Delphi Method requires several iterations where (1) the experts fill out the questionnaire and return it to the researcher, (2) the researcher compiles the response data and (3) the researcher sends a revised copy of the questionnaire and the results back to the experts for additional response. This process is repeated until a consensus is achieved.

4. The rating scale chosen is the Likert scale. This scale requires the respondent to answer each statement in terms of five different degrees of agreement (disagreement). This scale lends itself particularly well to programs of change or improvement.

5. STRONGLY AGREE means the respondent agrees in toto with the complete statement. AGREE represents a general agreement with the concepts represented by the statement. UNDECIDED means neither an agreement nor a disagreement. DISAGREE represents a general disagreement with the concepts represented by the statement. Finally, STRONGLY DISAGREE means the respondent disagrees in toto with the complete statement.

6. Finally, several open-ended questions are requested when using the Delphi Method. An open-ended question is one in which the respondent has no answer choices from which to select a response. Instead, the respondents "create" their own answers and state them in their own words.

Attachment 1

Panel Member Demographics Sheet

(Requested on first questionnaire only)

1. Are You: Military_____ Civilian_____

2. Total number of years service with the DoD: _____

3. Current grade is (Lt Colonel, SMSgt, GM-14 etc.): _____

4. Air Force Specialty Code (AFSC) or civilian series with associated AFSC currently held: _____

5. Present duty title: _____

6. Number of years and months in present position:
 Years_____ Months_____

7. Number of years and months you have been directly involved with Base Realignment/Closure Commission activities:
 Years_____ Months_____

8. Were you involved in the 1988 Closure Commission actions?
 Yes_____ No_____

9. Are bases from your command affected by the 1991 Closure Commission?
 Yes_____ No_____

10. The degree of your participation in USAF actions to develop the closure criteria for either the 1988 or 1991 Closure Commissions included:
No participation_____ Provided comments_____

 Comments included in final criteria_____

Attachment 2

First-Round Delphi Questionnaire

Introduction

This Delphi questionnaire is the first of up to a maximum of three questionnaires that will be used to evolve a consensus of expert opinion concerning the criteria used to determine military value during realignment/closure activities. The current 1991 round of base realignment/closure actions is based on eight specific criteria, with their associated sub-elements, and the DoD's Force Structure Plan.

The first four of these criteria are used to determine the military value of an installation that is under consideration for realignment or closure, and will be the primary focus of this research effort. The following brief discussion of the evolution of these criteria is presented prior to your completing the questionnaire.

Discussion

1988 Commission Criteria.

On May 3, 1988, Defense Secretary Carlucci signed a charter that established the 1988 Closure Commission. This charter also provided nine criteria to be used in realigning and closing bases. This Commission was charged with the responsibility to determine which bases to be closed or realigned. This first Commission completed its actions on December 29, 1988, at which time it published its formal report. The report contained several recommendations for future Commission activities, including that "the process should be...based on sound criteria that emphasize military value."

1991 Commission Criteria.

As a result of these recommendations, the criteria have been amended to reflect that primary consideration must be given to military value. Additionally, the use of a public comment period has brought to light several considerations that have further amended the criteria. Prior to the criteria being applied, the bases were categorized. The categories chosen were (1) Support (Depots, Product Divisions and Laboratories, and Test Facilities), (2) Training, (3) Flying (Strategic, Tactical, Mobility, Training, and Other), (4) Other, and (5) Air Reserve Component (Air National Guard and Air Force Reserve).

The present criteria are now eight in number and are classified into three distinct groups, the first of which is military value. Both the 1988 and 1991 Commission criteria are presented for your review.

Attachment 3

The 1988 Commission Criteria

(From Base Realignment and Closures Report, December 1988)

1. The current and future mission requirements and the impact on operational readiness of the military departments concerned.
2. The availability and condition of land and facilities at both the existing and potential receiving locations.
3. The potential to accommodate contingency, mobilization, and future force requirements at receiving locations.
4. The cost and manpower implications.
5. The extent and timing of potential cost savings, including whether the total cost savings realized from the closure or realignment of the base will, by the end of the 6-year period beginning with the date of the completion of the closure or realignment of the base, exceed the amount expended to close or realign the base.
6. The economic impact on the community in which the base to be closed or realigned is located.
7. The community support at the receiving locations.
8. The environmental impact.
9. The implementation process involved.

The 1991 Commission Criteria

(From the Federal Register [56 FR 6374], 15 Feb 1991)

Military Value

1. The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.
2. The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.
3. The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.
4. The cost and manpower implications.

Return on Investment

5. The extent and timing of potential costs and savings, including the number of years, beginning with the date of completion of the closure or realignment, for the savings to exceed the cost.

Impacts

6. The economic impact on communities.
7. The ability of both the existing and potential receiving communities' infrastructure to support forces, missions and personnel.
8. The environmental impact.

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

7. The application of the closure criteria will directly enhance the creation of future composite wings, provided the composite wing test is successful.

5 4 3 2 1

8. In my opinion, the use of these amended eight criteria would have changed the results of the 1988 Commission's decisions.

5 4 3 2 1

9. All of the concerns that surfaced in my command were adequately considered and addressed during the DoD's 1991 base closure evaluation process.

5 4 3 2 1

10. The 1991 Closure Commission process properly considers the impact realignment/closure actions have on non-USAF tenants.

5 4 3 2 1

11. The public comment period is an effective way to refine the criteria for base realignment/closure.

5 4 3 2 1

12. The end result of the current round of base realignment/closure actions will be a more effective, mission ready USAF.

5 4 3 2 1

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Questions on 1991 Commission Criteria One thru Four
and their Sub-elements

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Circle Your Response And Comment Where Appropriate

1. The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.

1a) This first criterion, as presently written, is an effective measure of military value.

5 4 3 2 1

1b) If I could change this first criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

Criterion One Sub-elements

- 1) Are the missions of the existing primary activity(ies) continuing?
- 2) Does the installation adequately support the primary activity(ies)?
- 3) Does the installation have force structure which supports a flying activity?
- 4) Operational effectiveness
- 5) If there is force structure to support other categories at the base, will they remain in the inventory?
- 6) Is existing force structure for primary mission of the base remaining in the inventory?
- 7) Are existing Trained Personnel Requirements (TPR) for base's primary mission remaining in the Air Force?
- 8) Does the base have an active runway?

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

2. The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.

2a) This second criterion, as presently written, is an effective measure of military value.

5	4	3	2	1
---	---	---	---	---

2b) If I could change this second criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

Criterion Two Sub-elements

- 1) Are there unique facilities at the installation which must be replicated if the base is closed? (High cost specialized facilities)
- 2) Existing associated airspace encroachment (special use airspace)
- 3) Future associated airspace encroachment (special use airspace)
- 4) Facilities capacity
- 5) Facilities condition
- 6) Existing local/regional community encroachment
- 7) Future local/regional community encroachment
- 8) Are the runway(s) adequate to support the primary mission?
- 9) What are the number of major missions supported? (Primary plus any other(s))

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

3. The ability to accomodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.

3a) This third criterion, as presently written, is an effective measure of military value.

5	4	3	2	1
---	---	---	---	---

3b) If I could change this third criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

Criterion Three Sub-elements

1) Contingency and Mobilization

2) Future force requirements

3c) These sub-elements, as presently written, are effective measures of military value.

5	4	3	2	1
---	---	---	---	---

3d) If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

4. The cost and manpower implications.

4a) This fourth criterion, as presently written, is an effective measure of military value.

5	4	3	2	1
---	---	---	---	---

4b) If I could change this fourth criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

Criterion Four Sub-elements

- 1) One time closure costs
- 2) 20 year net present value (NPV) of savings
- 3) Net steady state savings
- 4) Manpower reductions

4c) These sub-elements, as presently written, are effective measures of military value.

5	4	3	2	1
---	---	---	---	---

4d) If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

5. If I could add any additional criteria, also in an effort to improve the effectiveness in measuring military value, I would add the following:

Appendix B: Breakdown of Investigative Questions with their Supporting Questions from the Two Delphi Questionnaires

Investigative Question One

Are the 1991 Base Closure/Realignment Criteria One thru Four effective in measuring military value?

Supporting Delphi Questions.

1. The inherent mission diversity of the several military departments makes it difficult to develop realignment/closure criteria that can be applied to all bases.
2. As recommended by the 1988 Closure Commission, military value is a factor that warrants priority consideration during base realignment/closure decisions.
3. Military value is a characteristic that is easy to determine through the application of criteria one thru four.
4. Generally speaking, the 1991 Commission's criteria one thru four effectively assess USAF military value.
12. The end result of the current round of base realignment/closure actions will be a more effective, mission ready USAF.
- 1a, 2a, 3a, 4a. This first (and subsequent three) criterion, as presently written, is an effective measure of military value.
- 1c, 2c, 3c, 4c. These sub-elements, as presently written, are effective measures of military value.

Investigative Question Two

Are other criteria required to provide the DoD and the Commission a more effective means of measuring military value? If so, what are the other criteria?

Supporting Delphi Questions.

8. In my opinion, the use of these amended eight criteria would have changed the results of the 1988 Commission's decisions.

9. All of the concerns that surfaced in my command were adequately considered and addressed during the DoD's 1991 base closure evaluation process.

10. The 1991 Closure Commission process properly considers the impact realignment/closure actions have on non-USAF tenants.

1b, 2b, 3b, 4b. If I could change this first (and subsequent three) criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

1d, 2d, 3d, 4d. If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

5. If I could add any additional criteria, also in an effort to improve the effectiveness in measuring military value, I would add the following:

Investigative Question Three

Is the required public comment period an effective way to revise the selection criteria for base closure/realignment?

Supporting Delphi Question.

11. The public comment period is an effective way to refine the criteria for base realignment/closure.

Investigative Question Four

Will the application of the four criteria measuring military value coincide with the Department of Defense's force structure plan, and the subsequent return of forces from overseas?

Supporting Delphi Questions.

5. The four military value criteria are a credible connection to the force structure plan.

6. Base realignment/closure actions are proceeding according to USAF plans to return forces from overseas as a result of the reduction of the perceived threat of the Warsaw Pact nations.

Investigative Question Five

Will the application of the four criteria measuring military value coincide with the USAF's potential creation of composite wings?

Supporting Delphi Question

7. The application of the closure criteria will directly enhance the creation of future composite wings, provided the composite wing test is successful.

Appendix C: Summary and Analysis of Panel Demographics

1. Military: 11, Civilian: 1.
2. Total number of years service with the DoD: 7, 12, 18, 22, 20, 14, 19, 21, 21, 18, 16.

Total panel service in DoD: 188 years.

Mean panel service in DoD: 17 year, one month.

3. Current grade: Colonel: 1, Lt Colonel: 8, Major: 2, GS-7: 1.

4. Number of years and months in present position:

Years Months

3	9
1	1
0	11
2	8
2	0
1	9
0	11
1	6
2	4
0	10
3	7

Mean time in present position: 1 year, 11 months.

Note: The one full-colonel responded to round two only and did not complete the demographics information sheet. No demographic information on this respondent (other than being a military member and rank) is included in the above summary and analysis.

5. Number of years and months directly involved with Base Closure/Realignment Commission activities:

<u>Years</u>	<u>Months</u>
2	0
0	9
0	11
2	4
2	0
1	9
6	0
1	6
1	0
0	9
3	1

Mean time directly involved with Base Closure/Realignment Commission activities: 2 years.

6. Involvement in the 1988 Closure Commission actions:

Yes: 7, No: 4.

7. Panel members whose command had bases affected by the 1991 closure commission:

Yes: 8, No: 2, N/A: 1.

8. The degree of panel members' participation in USAF actions to develop the closure criteria for either the 1988 or 1991 Commission:

No participation: 2, Provided comments: 1,

Comments included in final criteria: 8.

Appendix D: Results of the First-Round Delphi Questionnaire

Questions of a General Nature

	Respondents											(C)onsensus	
	1	2	3	4	5	6	7	8	9	10	11		
Q	1	4	4	3	4	2	5	1	2	4	5	5	C
u	2	4	5	5	4	5	5	4	5	5	5	5	C
e	3	4	4	4	3	4	2	4	2	2	2	2	
s	4	4	4	4	3	4	4		4	2	5	4	C
t	5	4	4		3	4	4	4	4	2	5	3	C
i	6	3	2	4	3	2	4	3	4	4	2	2	
o	7	3	3	3	3	1	4	2	2	1	2	1	C
n	8	2	4	3	3	1	2	2	3	4	5	2	
s	9		2	5	2	2	4	4	1	2	4	2	C
	10		4	4	3	2	4	4	1	2	4	2	
	11	3	2	3	4	2	2	3	1	1	2	2	C
	12		4	4	3	5	4	4	4	2	4	3	C

Note: The researcher assigned each of the respondents a number for the purpose of maintaining control of the responses. These respondent-control numbers are presented along the top horizontal axis of the matrices. The question numbers appear along the left vertical axis.

Also, the researcher determined whether a consensus was achieved by applying the primary decision rule. This meant first grouping the STRONGLY AGREE and AGREE and the STRONGLY DISAGREE and DISAGREE responses together, respectively. This grouping resulted in three categories of agreement, UNDECIDED being the third category. Then, the majority rule was applied, which required at least more than half of the respondents choosing one of the three categories of agreement, based on the number of responses for that particular question. If more than half of the respondents chose a response category, a consensus was achieved. The omissions in the matrix correspond to non-responses by the panel members for the given question.

Questions on 1991 Criteria One thru Four
and their Sub-elements

	Respondents											(C)onsensus
	1	2	3	4	5	6	7	8	9	10	11	
1a	4	4	4	3	5	4	4	4	2	5	4	C
1c	4	4	4	3	5	4	4	4	2	5	4	C
2a	4	2	4	3	5	4	3	4	2	5	4	C
2c	4	4	4	3	4	4	4	4		5	4	C
3a	3	2	4	3	4	4	4	5	2	4	1	C
3c	4	3	4	3	4	4		5	2	4	1	C
4a	4	4	4	2	2	4	4	3	2	3	4	C
4c	4	4		2	2	4	4	4		3	4	C

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Appendix E: Comments to Open-Ended Questions
of the First-Round Delphi Questionnaire

Question 1b If I could change this first criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

- Define future mission requirements as a preamble.
- The projected mission requirements and size and composition of the Department of Defense's total force at the time of completion of closures/realignments and for the ten year period beyond that date.
- Current requirements are irrelevant, unless force structure remains absolutely static. The relevant measures must be evaluated at the time closures/movements are implemented to ascertain whether or not basing structure will adequately house/support/sustain the forces.

Question 1d If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

- Define TPR for FY92-FY97 and then ask the question.
- Is a flying operation important to the mission?
- Does an active runway enhance the operational effectiveness of the mission? Is it an unnecessary expense?
- If the existing mission requirements remain in the Air Force, is it cost effective to consolidate at a different location?
- Are the missions of the existing activities continuing? If so, are they continuing at the same, smaller, or expanded level?
- "Adequate" is a relative term here. In addition, given that, in all instances, forces are operating at each installation and presumably effecting their mission(s), the installation is inherently adequate to the mission.

Note: This appendix represents a verbatim listing of panel responses to the open-ended questions of the First-Round Delphi Questionnaire. The actual question given to the panel members, with its question number retained, precedes the panel responses.

Question 1d (Continued)

-Does the installation have force structure which supports or requires a flying activity? (This revision is needed to address installations/force structures positioned to provide a service or integrate with other DoD requirements, e.g. Pope AFB supporting the XVIII ABN Corps, etc.).

-Does the installation have or have access to the proper ranges, airspace and other forces required to support the mission requirements for training and employment of the forces programmed to reside at the base?

-If there is force structure to support/require other categories at the base, will those categories remain in the inventory at the same, smaller, or expanded level?

-Is the existing force structure of the primary mission of the base remaining in the inventory or programmed for replacement at the same level with force structure having the same mission?

-Is the base population expected/programmed to remain at the existing, smaller, or expanded size and composition?

-Does the base have an active runway that will support the projected mission(s)?

-The number of active runways at the installation.

-To what degree (effectiveness) does the base support the wartime mission and the peacetime mission, based on location and infrastructure?

Question 2b If I could change this second criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

-I would remove all reference to potential receiving locations. We are judging whether a base has the capacity for expansion/continued use.

-Delete potential receiving locations.

-What expense is associated with the facility necessary to bring it up to Air Force standards? Can any guarantees be obtained from the local authorities to ensure/improve the current situation?

-The availability and condition of land, facilities, and associated airspace and ranges at both the existing and potential receiving locations.

Question 2d If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

-Add the following: Compatibility of projected airspace with other missions.

-Add the following: Proximity of ranges and airspace.

-Facilities capacity and compatibility with programmed force structure.

-Facilities condition with respect to a given standard (specify) and expected cost to bring all facilities to the highest required standard.

-Delete as irrelevant: Existing local/regional community encroachment.

-Are the runways adequate to support the projected mission?

-Will the land, facilities, airspace, and ranges support additional missions above those programmed and, if so, how much additional mission requirements can be supported?

-Can the MAJCOM mission (based on force structure) be done effectively without these facilities? (Regardless of size and condition, they may be excess to requirements, or they may be of a substantial value).

Question 3b If I could change this third criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

-The ability to accommodate another military mission or expand current mission.

-Delete this "criteria [sic]. It is vague and redundant to other measures stipulated in previous criteria.

-I would sub-divide and address each area separately: contingency--mobilization--future force, rather than lump together.

-Delete entirely. Has very low relevancy to current mission. Comes into play in only a small portion of times.

Question 3d If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

-Can compatible missions be consolidated from Europe or other commands?

-Delete these sub-elements. This area is covered in other areas.

-a) Contingency--b) mobilization (activation of Reserve/Guard forces)--c) future force.

-Delete these sub-elements: Measurements are irrelevant, and cost to change a value may be fairly low.

Question 4b If I could change this fourth criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

-These measure cost/savings and bodies. I'm not sure these are applicable to military value. Return on investment would be a more accurate placement.

-The cost implications. (Manpower is a cost element).

-This is not military value.

Question 4d If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

-Provided all savings are used to enhance/maintain military value of remaining force structure and support structure.

-Do not use COBRA Model as is!! Use standard accounting procedures.

-Delete net steady state savings. Net present value analysis provides a common measure of comparison.

-Manpower reductions should be expanded to specify end-strength (officers, enlisted, civilian) of projected force structure/basing before closures versus end-strength following closures, exclusive of unrelated force structure changes.

Question 5 If I could add any additional criteria, also in an effort to improve the effectiveness in measuring military value, I would add the following:

-What effect does this base have on regional support of the mission?

-What effect does this base have on worldwide support of the mission?

-Is this base's closure dependent upon other bases staying open to cover the mission requirements?

Appendix F: Second-Round Delphi Questionnaire

From: AFIT/LSG (Capt Gorgoni)

3 July 1991

Subject: Research Study--1991 Commission on Base
Closure/Realignment--Second Delphi Iteration

To: Research Panel Member

1. Thank you for your participation in the first round of the Delphi questionnaire on the 1991 Base Closure/Realignment Criteria. The responses from 11 panel members in round one were dynamic and interesting. Many innovative ideas were presented. This second Delphi round should resolve the few conflicts and should meet all the goals of the research. If this occurs, this will be the final round.

2. The second Delphi round is attached in three parts. Part I is similar to the first round in format, but no open-ended questions are included. The purpose of Part I is to gain a consensus opinion on the comments which the panel provided to the open-ended questions during round one. A summary of the written comments is given. Then, the same five-point Likert scale is provided for you to record your level of agreement.

3. In Part II, the first 12 Likert-scaled questions from round one are again provided to the panel, along with a summary of the panel's responses, including the mode and the median. You are invited to re-answer these 12 questions so that further consensus, if possible, might be reached.

4. Part III consists of a subjective look at the 1991 Closure Commission's 1 July recommendations to the President. There is no intention of reaching a consensus in this part. The intent is to elicit your opinion on the commission's findings in relation to the Air Force's prior closure/realignment recommendations to the Defense Secretary. As with all panel responses, non-attribution will be applied in part III.

5. Please complete the attached Delphi questionnaire within five duty days and return it in the attached envelope. This will assist me in completing the analysis on time. If you need to contact me, please phone DSN 785-8411 and leave your name and DSN or commercial number. Or, if you prefer, phone me directly at home at 513-873-8644. Thank you for your time and participation.

DOUGLAS P. GORGONI, Capt, USAF

2 Attachments
1 Delphi Questionnaire
2 Return Envelope

Part I

Responses to Questions on 1991 Commission Criteria One
thru Four and their Sub-elements

This section represents a summary of the panel's responses to the open-ended questions of round one. Please record your level of agreement to each of the comments presented.

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Circle Your Response

Criterion One

1. The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.

If I could change this first criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

1a. Define future mission requirements as a preamble.

5	4	3	2	1
---	---	---	---	---

1b. The projected mission requirements and size and composition of the DoD's total force at the time of completion of closure/realignments is more appropriate. Current requirements are irrelevant unless force structure remains static. The relevant measures must be evaluated at the time closures/realignments are completed to ascertain whether or not basing structure will adequately house/support/ sustain the forces.

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Attachment 1

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

Criterion One Sub-elements

- a) Are the missions of the existing primary activity(ies) continuing?
- b) Does the installation adequately support the primary activity(ies)?
- c) Does the installation have force structure which supports a flying activity?
- d) Operational effectiveness
- e) If there is force structure to support other categories at the base, will they remain in the inventory?
- f) Is existing force structure for primary mission of the base remaining in the inventory?
- g) Are existing Trained Personnel Requirements (TPR) for base's primary mission remaining in the Air Force?
- h) Does the base have an active runway?

If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

1c. To what degree of effectiveness (sub-element b) does the base support the wartime and peacetime missions?

5	4	3	2	1
---	---	---	---	---

1d. Is a flying operation (sub-element c) important to the mission?

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

1e. Does the installation have force structure (sub-element c) which supports or requires a flying activity? (This revision is needed to address installations/force structures positioned to provide a service or to integrate with other DoD requirements, e.g. Pope AFB supporting the XVIII ABN Corps, etc.).

5	4	3	2	1
---	---	---	---	---

1f. Does an active runway enhance the operational effectiveness (sub-element d) of the mission?

5	4	3	2	1
---	---	---	---	---

1g. Is an active runway an unnecessary expense?

5	4	3	2	1
---	---	---	---	---

1h. If the existing mission(s) (sub-element f) is remaining in the Air Force, is it cost-effective to consolidate at a different location?

5	4	3	2	1
---	---	---	---	---

1i. If the existing mission(s) (sub-element f) is continuing, is it continuing at the same, a smaller, or an expanded level?

5	4	3	2	1
---	---	---	---	---

1j. Define TPR (sub-element g) for FY 92-97 and then ask the question.

5	4	3	2	1
---	---	---	---	---

1k. Does the installation have access to the proper ranges, airspace, and other forces required to support the mission requirements for training and employment of the forces programmed to reside at the base?

5	4	3	2	1
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5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

1l. Does the base have an active runway (sub-element h) that will support the projected missions?

5	4	3	2	1
---	---	---	---	---

1m. Is there a sufficient number of active runways (sub-element h) at the installation?

5	4	3	2	1
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Criterion Two

2. The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.

If I could change this second criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

2a. Remove all reference to "potential receiving locations."

5	4	3	2	1
---	---	---	---	---

2b. Include "ranges" as an availability requirement in this criterion.

5	4	3	2	1
---	---	---	---	---

2c. What expense is associated with the facility in order to bring it up to Air Force standards?

5	4	3	2	1
---	---	---	---	---

2d. Can any guarantees be obtained from the local civil authorities to improve the current situation?

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Criterion Two Sub-elements

- a) Are there unique facilities at the installation which must be replicated if the base is closed? (High cost specialized facilities)
- b) Existing associated airspace encroachment (special use airspace)
- c) Future associated airspace encroachment (special use airspace)
- d) Facilities capacity
- e) Facilities condition
- f) Existing local/regional community encroachment
- g) Future local/regional community encroachment
- h) Are the runway(s) adequate to support the primary mission?
- i) What are the number of major missions supported? (Primary plus any other(s))

If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

2e. Compatibility of projected airspace with other missions.

5	4	3	2	1
---	---	---	---	---

2f. Proximity of ranges and airspace.

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

2g. Facilities capacity (sub-element d) and compatibility with programmed force structure.

5	4	3	2	1
---	---	---	---	---

2h. Facilities condition (sub-element e) with respect to a specified standard and the expected cost to bring all facilities to the highest required standard.

5	4	3	2	1
---	---	---	---	---

2i. Can the MAJCOM mission (based on force structure) be done effectively without these facilities?

5	4	3	2	1
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Criterion Three

3. The ability to accomodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.

If I could change this third criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

3e. Delete this criterion. It has very low relevancy to the current mission.

5	4	3	2	1
---	---	---	---	---

3b. Delete this criterion. It is redundant to other measures stipulated in the previous criteria.

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Criterion Three Sub-elements

- a) Contingency and Mobilization
- b) Future force requirements

If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

3c. Sub-divide and address contingency and mobilization separately, rather than lumping them together.

5	4	3	2	1
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Criterion Four

4. The cost and manpower implications.

If I could change this fourth criterion to improve its effectiveness in measuring military value, I would rewrite it as follows:

4a. This is not a measure of military value and should not be included with the first three criteria.

5	4	3	2	1
---	---	---	---	---

4b. Manpower is a cost and therefore is already considered.

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Criterion Four Sub-elements

- a) One time closure costs
- b) 20 year net present value (NPV) of savings
- c) Net steady state savings
- d) Manpower reductions

If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

4c. These sub-elements measure cost/savings and bodies. These are not measures of military value. The Return on Investment (ROI) criteria category is a better location for this criterion and its sub-elements.

5	4	3	2	1
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4d. Do not use the COBRA model. Use standard accounting procedures instead.

5	4	3	2	1
---	---	---	---	---

4e. Delete net steady state savings (sub-element c). It is an irrelevant measure since NPV (sub-element b) provides a common measure of comparison.

5	4	3	2	1
---	---	---	---	---

4f. Manpower reductions (sub-element d) should be expanded to specify end-strength officers/enlisted/civilians of projected force structure/basing before closures versus end-strength following closures, exclusive of unrelated force structure changes.

5	4	3	2	1
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5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

Final Open-Ended Question

If I could add any additional criteria, also in an effort to improve the effectiveness in measuring military value, I would add the following:

5a. What effect does this base have on regional support of the mission?

5	4	3	2	1
---	---	---	---	---

5b. What effect does this base have on worldwide support of the mission.

5	4	3	2	1
---	---	---	---	---

5c. Is this base's closure dependent upon other bases staying open to cover the mission requirements?

5	4	3	2	1
---	---	---	---	---

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

Part II

Questions of a General Nature

These 12 questions from round one are again provided in an effort to further gain a consensus. Also, a summary of the panel's responses is given, including the mode and median for each question. The mode is the answer with the largest number of responses. The median is the middle most measure when arranged in ascending or descending order.

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Circle Your Response

1. The inherent mission diversity of the several military departments makes it difficult to develop closure/realignment criteria that can be applied to all bases.

Summary: STRONGLY AGREE: 3, AGREE: 4, UNDECIDED: 1,
DISAGREE: 2, STRONGLY DISAGREE: 1.
Mode: AGREE, Median: AGREE.

Request you re-score this question.

5	4	3	2	1
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2. As recommended by the 1988 Closure Commission, military value is a factor that warrants priority consideration during base closure/realignment decisions.

Summary: STRONGLY AGREE: 8, AGREE: 3.
Mode: STRONGLY AGREE, Median: STRONGLY AGREE.

Request you re-score this question.

5	4	3	2	1
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5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

3. Military value is a characteristic that is easy to determine through the application of criteria one thru four.

Summary: AGREE: 5, UNDECIDED: 1, DISAGREE: 5.
 Mode: Not reached, Median: UNDECIDED

Request you re-score this question.

5	4	3	2	1
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4. Generally speaking, the 1991 Commission's criteria one thru four effectively assess USAF military value.

Summary: STRONGLY AGREE: 1, AGREE: 7, UNDECIDED: 1,
 DISAGREE: 1, NON-RESPONSE: 1.
 Mode: AGREE, Median: AGREE.

Request you re-score this question.

5	4	3	2	1
---	---	---	---	---

5. The four military value criteria are a credible connection to the force structure plan.

Summary: STRONGLY AGREE: 1, AGREE: 6, UNDECIDED: 2,
 DISAGREE: 1, NON-RESPONSE: 1.
 Mode: AGREE, Median: AGREE.

Request you re-score this question.

5	4	3	2	1
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5	4	3	2	1
STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

10. The 1991 Closure Commission process properly considers the impact closure/realignment actions have on non-USAF tenants.

Summary: AGREE: 5, UNDECIDED: 1, DISAGREE: 3,
STRONGLY DISAGREE: 1. NON-RESPONSE: 1.
Mode: AGREE, Median: Not reached.

Request you re-score this question.

5 4 3 2 1

11. The public comment period is an effective way to refine the criteria for base closure/realignment.

Summary: AGREE: 1, UNDECIDED: 3, DISAGREE: 5,
STRONGLY DISAGREE: 2.
Mode: DISAGREE, Median: DISAGREE.

Request you re-score this question.

5 4 3 2 1

12. The end result of the current round of base closure/realignment actions will be a more effective, mission capable USAF.

Summary: STRONGLY AGREE: 1, AGREE: 6, UNDECIDED: 2,
DISAGREE: 1, NON-RESPONSE: 1.
Mode: AGREE, Median: AGREE.

5 4 3 2 1

5 4 3 2 1
STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

Part III

Questions Not Requiring a Consensus Opinion

At this date, the 1991 Base Closure/Realignment Commission has completed its actions and has forwarded its recommendations to the President. Based on the Commission's recommendations and your involvement in the Air Force's prior recommendations to the Defense Secretary, please provide your opinion on the following statements.

5	4	3	2	1
STRONGLY	AGREE	UNDECIDED	DISAGREE	STRONGLY
AGREE				DISAGREE

1. The 1991 Commission properly considered Air Force recommendations, as submitted by the Defense Secretary.

5	4	3	2	1
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2. The Air Force's action to expand the eight selection criteria to many sub-elements (approximately 80) led the 1991 Commission to manage the Air Force's recommendations and conclusions at too micro a level.

5	4	3	2	1
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3. The Commission introduced new and qualitative criteria that influenced decisions that differed from Air Force recommendations.

5	4	3	2	1
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4. Separating the Air Force installations into command or mission categories constrained the Air Force and/or 1991 Commission from recommending consolidation (realignment) of missions at an installation.

5	4	3	2	1
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If your response to question 4 is AGREE or STRONGLY AGREE, did it primarily affect actions by:

the Air Force _____ the Commission _____ Both _____

Appendix G: Results of the Second-Round Delphi Questionnaire

Responses to Questions on 1991 Commission Criteria
One thru Four and their Sub-elements

	Respondents										(C)onsensus
	1	2	3	5	7	9	10	11	12		
1a	4	3	3	5	4	5	3	2	5	C	
1b	3	4	4	5	4	5	5	1	5	C	
1c	4	4	4	5	4	4	2	5	5	C	
1d	4	4	4	4	3	4	5	4	5	C	
1e	3	4	4	4		5	5	4	5	C	
1f	2	5	4	4	4	5	5	4	5	C	
1g	2	2	5	4		2	1	4	5		
1h	4	4	4	4	5	2	5	5	5	C	
1i	4	4	4	4	4	5	5	4	4	C	
1j	4	4	4	5	5	5	5	3	3	C	
1k	3	5	4	5	4	5	5	3	5	C	
1l	4	5	5	5	3	5	5	3	4	C	

Note: The researcher assigned each of the respondents a number for the purpose of maintaining control of the responses. These respondent-control numbers are presented along the top horizontal axis of the matrices. The question numbers appear along the left vertical axis.

Also, the researcher determined whether a consensus was achieved by applying the primary decision rule. This meant first grouping the STRONGLY AGREE and AGREE and the STRONGLY DISAGREE and DISAGREE responses together, respectively. This grouping resulted in three categories of agreement, UNDECIDED being the third category. Then, the majority rule was applied, which required at least more than half of the respondents choosing one of the three categories of agreement, based on the number of responses for that particular question. If more than half of the respondents chose a response category, a consensus was achieved. The omissions in the matrix correspond to non-responses by the panel members for the given question.

	Respondents										(C)onsensus
	1	2	3	5	7	9	10	11	12		
1m	4	4	5	5	3	5	5	3	4	C	
2a	4	4	3	3	2	5	1	5	1		
2b	3	4	4	4	4	1	5	3	4	C	
2c	4	4	4	5	5	5	5	4	5	C	
2d	2	2	4	3	3	2	1	2	2	C	
2e	4	3	4	4	4	4	1	4	4	C	
2f	4	5	4	5	3	5	1	3	4	C	
2g	4	4	4	4	4	5	5	4	5	C	
2h	4	4	4	5	5	5	3	4	4	C	
2i	4	4	4	4	4	5		4	4	C	
3a	3	2	2	3	2	5	1	5	1	C	
3b	3	2	2	4	2	5	1	5	1	C	
3c	4	4	3	3	2	4	5	4	5	C	
4a	3	4	2	5	2	2	1	4	1	C	
4b	3	3	2	5	2	5	1	2	4		
4c	5	4		5	4	4	3	4	1	C	
4d	4	5	4	5	5	5	1	5	2	C	
4e		4	3	5	5	5	3	4	5	C	
4f	4	4		4	4	5	3	4	5	C	
5a	4	4	4	3	4	2	5	5	5	C	
5b	4	4	4	3	4	2	5	5	5	C	
5c	4	4		4	4	2	5	5	5	C	

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Part II

Questions of a General Nature

	Respondents										(C)onsensus
	1	2	3	5	7	9	10	11	12		
1	4	4	2	4	4	2	4	4	2	C	
2	5	5	5	5	3	5	5	5	5	C	
3	3	2	5	2	1	4	4	4	4	C	
4	3	4	4	4	4	4	4	4	4	C	
5	3	4	4	4	4	4	4	4	4	C	
6	3	2	3	2	2	2	2	3	4	C	
7	3	2	3	3	4	1	2	1	2	C	
8	2	4	3	5	3	4	5	4	4	C	
9	3	2	4	4	3	2	2	2	1	C	
10	2	4	3	4	4	2	4	2	4	C	
11	2	2	2	2	2	2	1	3	2	C	
12	3	4	4	4		2	4	3			

Part III

Questions Not Requiring a Consensus Opinion

		Respondents								
		1	2	3	5	7	9	10	11	12
Q u e s t i o n s	1	4	4	4	4	5	5	4	4	4
	2	3	2	2	3	2	1	2	4	3
	3	2	2	3	3	2	1	2	2	4
	4	2	2	3	4	2	2	2	2	3

Appendix H: Unsolicited Written Responses to the
Second-Round Delphi Questionnaire

Criterion Two Sub-elements

- a) Are there unique facilities at the installation which must be replicated if the base is closed? (High cost specialized facilities)
- b) Existing associated airspace encroachment (special use airspace)
- c) Future associated airspace encroachment (special use airspace)
- d) Facilities capacity
- e) Facilities condition
- f) Existing local/regional community encroachment
- g) Future local/regional community encroachment
- h) Are the runway(s) adequate to support the primary mission?
- i) What are the number of major missions supported? (Primary plus any other(s))

If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

- 2e) Compatibility of projected airspace with other missions.
- 2f) Proximity of ranges and airspace.

Unsolicited written response: "Both are too narrow."

Note: This appendix presents unsolicited written responses the panel members provided to Part I of the second-round Delphi questionnaire. Although the researcher purposely designed only Likert-scaled questions for round two, several panel members chose to write comments on the questionnaire margin after selecting their Likert-scaled response. As a reference source for future research on this topic and as evidence of the panel members' interest and expertise on the closure/realignment process, the researcher has elected to publish these unsolicited comments referenced to their respective Likert-scaled question. No other analysis was performed.

2h) Facilities condition (sub-element e) with respect to a specified standard and the expected cost to bring all facilities to the highest required standard.

Unsolicited written response: "No such thing--minimum standard to be rated code 1, 2, 3."

2i) Can the MAJCOM mission (based on force structure) be done effectively without these facilities?

Unsolicited written response: "This means excess capacity."

Criterion Three Sub-elements

- a) Contingency and Mobilization
- b) Future force requirements

If I could change these sub-elements, to improve their effectiveness in measuring military value, I would rewrite them as follows:

3c) Subdivide and address contingency and mobilization separately, rather than lumping them together.

Unsolicited written response: "Right on target."

Criterion Four Sub-elements

- a) One time closure costs
- b) 20 year net present value (NPV) of savings
- c) Net steady state savings
- d) Manpower reductions

If I could change these sub-elements to improve their effectiveness in measuring military value, I would rewrite them as follows:

Do not use the COBRA model. Use standard accounting procedures instead.

Unsolicited Written Response: "Need a DoD standard. BCC (Base Closure Commission) is origin. Need fast turn on numbers."

Final Open-Ended Question

If I could add any additional criteria, also in an effort to improve the effectiveness in measuring military value, I would add the following:

Is this base's closure dependent upon other bases staying open to cover the mission requirements?

Unsolicited Written Response: "Considered when realignments are made."

Appendix I: Statistical Results by Investigative Question

Delphi Questions Supporting Investigative Question One

	Round	Size	Median	Consensus
	1	2	9	AGREE
	2	2	9	STRONGLY AGREE
	3	2	9	STRONGLY AGREE/AGREE
	4	2	9	AGREE
Q	12	2	7	N/A
u	1a	1	11	AGREE
e	1c	1	11	AGREE
s	2a	1	11	STRONGLY AGREE/AGREE
t	2c	1	10	AGREE
i	3a	1	11	STRONGLY AGREE/AGREE
o	3c	1	9	AGREE
n	4a	1	11	AGREE
s	4c	1	9	AGREE

Note: This appendix presents the statistical calculations for the questionnaire responses, grouped by investigative question. The qualitative responses (i.e. AGREE), rather than the numeric responses (i.e. 1-5), are given in the above Median and Consensus columns to simplify the analysis.

The round column refers to either the first or second Delphi round. If the questions were repeated in the second round, the second-round responses were used. As outlined in Chapter III, several questions were purposefully given only during the first round. The size column refers to the number of respondents. The median and consensus are represented by the qualitative response associated with the Likert-scale. If the consensus was achieved in a single response category (for example, AGREE or STRONGLY AGREE) that single category was given. If this was not possible based on the number of responses, the combined STRONGLY AGREE/AGREE and STRONGLY DISAGREE/DISAGREE response categories were maintained.

Delphi Questions Supporting Investigative Question Two

	Round	Size	Median	Consensus	
	8	2	9	AGREE	STRONGLY AGREE/AGREE
	9	2	9	DISAGREE	STRONGLY DISAGREE/ DISAGREE
	10	2	9	AGREE	STRONGLY AGREE/AGREE
	1a	2	9	AGREE	STRONGLY AGREE/AGREE
	1b	2	9	AGREE	STRONGLY AGREE/AGREE
	1c	2	9	AGREE	STRONGLY AGREE/AGREE
	1d	2	9	AGREE	AGREE
	1e	2	8	AGREE	STRONGLY AGREE/AGREE
Q u e s t i o n s	1f	2	9	AGREE	STRONGLY AGREE/AGREE
	1g	2	8	UNDECIDED	N/A
	1h	2	9	AGREE	STRONGLY AGREE/AGREE
	1i	2	9	AGREE	AGREE
	1j	2	9	AGREE	STRONGLY AGREE/AGREE
	1k	2	9	STRONGLY AGREE	STRONGLY AGREE
	1l	2	9	STRONGLY AGREE	STRONGLY AGREE
	1m	2	9	AGREE	STRONGLY AGREE/AGREE
	2a	2	9	UNDECIDED	N/A
	2b	2	9	AGREE	AGREE
	2c	2	9	STRONGLY AGREE	STRONGLY AGREE
2d	2	9	DISAGREE	DISAGREE	
2e	2	9	AGREE	AGREE	
2f	2	9	AGREE	STRONGLY AGREE/AGREE	

	2g	2	9	AGREE	AGREE
	2h	2	9	AGREE	AGREE
	2i	2	8	AGREE	AGREE
	3a	2	9	DISAGREE	STRONGLY DISAGREE/ DISAGREE
	3b	2	9	DISAGREE	STRONGLY DISAGREE/ DISAGREE
Q	3c	2	9	AGREE	STRONGLY AGREE/AGREE
u	4a	2	9	DISAGREE	STRONGLY DISAGREE/ DISAGREE
e	4b	2	9	UNDECIDED	N/A
s	4c	2	8	AGREE	STRONGLY AGREE/AGREE
t	4d	2	9	STRONGLY AGREE	STRONGLY DISAGREE
i	4e	2	8	STRONGLY AGREE/ AGREE	STRONGLY AGREE/AGREE
o	4f	2	8	AGREE	AGREE
n	5a	2	9	AGREE	STRONGLY AGREE/AGREE
s	5b	2	9	AGREE	STRONGLY AGREE/AGREE
	5c	2	8	AGREE	STRONGLY AGREE/AGREE

Delphi Question Supporting Investigative Question Three

	Round	Size	Median	Consensus
11	2	9	DISAGREE	DISAGREE

Q
u
e
s
t
i
o
n
s

Delphi Questions Supporting Investigative Question Four

5	2	9	AGREE	AGREE
6	2	9	DISAGREE	DISAGREE

Delphi Question Supporting Investigative Question Five

7	2	9	DISAGREE	STRONGLY DISAGREE/ DISAGREE
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Appendix J: Twenty-Seven Consensus Improvement Recommendations to the Four Military Value Criteria and Associated Sub-elements

Criterion One

The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.

1. Define future mission requirements as a preamble.
2. The projected mission requirements and size and composition of the DoD's total force at the time of completion of closure/realignments is more appropriate. Current requirements are irrelevant unless force structure remains static. The relevant measures must be evaluated at the time closures/realignments are completed to ascertain whether or not basing structure will adequately house/support/ sustain the forces.

Criterion One Sub-elements

- a) Are the missions of the existing primary activity(ies) continuing?
- b) Does the installation adequately support the primary activity(ies)?
- c) Does the installation have force structure which supports a flying activity?
- d) Operational effectiveness
- e) If there is force structure to support other categories at the base, will they remain in the inventory?
- f) Is existing force structure for primary mission of the base remaining in the inventory?
- g) Are existing Trained Personnel Requirements (TPR) for base's primary mission remaining in the Air Force?
- h) Does the base have an active runway?

Note: This appendix presents the 27 consensus improvement recommendations the expert panel members selected to improve the effectiveness of measuring military value during Base Closure/Realignment Commission deliberations. The 27 recommendations are underlined and appear after their respective criterion/sub-element.

3. To what degree of effectiveness (sub-element b) does the base support the wartime and peacetime missions?
4. Is a flying operation (sub-element c) important to the mission?
5. Does the installation have force structure (sub-element c) which supports or requires a flying activity? (This revision is needed to address installations/force structures positioned to provide a service or to integrate with other DoD requirements, e.g. Pope AFB supporting the XVIII ABN Corps, etc.).
6. Does an active runway enhance the operational effectiveness (sub-element d) of the mission?
7. If the existing mission(s) (sub-element f) is remaining in the Air Force, is it cost-effective to consolidate at a different location?
8. If the existing mission(s) (sub-element f) is continuing, is it continuing at the same, a smaller, or an expanded level?
9. Define TPR (sub-element g) for FY 92-97 and then ask the question.
10. Does the installation have access to the proper ranges, airspace, and other forces required to support the mission requirements for training and employment of the forces programmed to reside at the base?
11. Does the base have an active runway (sub-element h) that will support the projected missions?
12. Is there a sufficient number of active runways (sub-element h) at the installation?

Criterion Two

The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.

13. Include "ranges" as an availability requirement in this criterion.

14. What expense is associated with the facility in order to bring it up to Air Force standards?

Criterion Two Sub-elements

a) Are there unique facilities at the installation which must be replicated if the base is closed? (High cost specialized facilities)

b) Existing associated airspace encroachment (special use airspace)

c) Future associated airspace encroachment (special use airspace)

d) Facilities capacity

e) Facilities condition

f) Existing local/regional community encroachment

g) Future local/regional community encroachment

h) Are the runway(s) adequate to support the primary mission?

i) What are the number of major missions supported? (Primary plus any other(s))

15. Compatibility of projected airspace with other missions.

16. Proximity of ranges and airspace.

17. Facilities capacity (sub-element d) and compatibility with programmed force structure.

18. Facilities condition (sub-element e) with respect to a specified standard and the expected cost to bring all facilities to the highest required standard.

19. Can the MAJCOM mission (based on force structure) be done effectively without these facilities?

Criterion Three

The ability to accomodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.

Criterion Three Sub-elements

- a) Contingency and Mobilization
- b) Future force requirements

20. Sub-divide and address contingency and mobilization separately, rather than lumping them together.

Criterion Four

The cost and manpower implications.

Criterion Four Sub-elements

- a) One time closure costs
- b) 20 year net present value (NPV) of savings
- c) Net steady state savings
- d) Manpower reductions

21. These sub-elements measure cost/savings and bodies. These are not measures of military value. The Return on Investment (ROI) criteria category is a better location for this criterion and its sub-elements.

22. Do not use the COBRA model. Use standard accounting procedures instead.

23. Delete net steady state savings (sub-element c). It is an irrelevant measure since NPV (sub-element b) provides a common measure of comparison.

24. Manpower reductions (sub-element d) should be expanded to specify end-strength officers/enlisted/civilians of projected force structure/basing before closures versus end-strength following closures, exclusive of unrelated force structure changes.

Other Improvement Recommendations

25. What effect does this base have on regional support of the mission?

26. What effect does this base have on worldwide support of the mission.

27. Is this base's closure dependent upon other bases staying open to cover the mission requirements?

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Vita

Captain Douglas P. Gorgoni was born on October 7, 1959 in Forest Hills, New York. He graduated from Amityville High School, New York in June 1977 and then attended the United States Merchant Marine Academy, Maritime College, Fort Schuyler, New York. After completion of the freshman year there, Captain Gorgoni attended the Brigham Young University in Provo, Utah where he graduated with a Bachelor of Science in Industrial Education, College of Engineering and Sciences, in 1984. Prior to graduation, he took a two-year break from his undergraduate studies to serve as a lay minister for The Church of Jesus Christ of Latter-Day Saints in Tahiti, French Polynesia. Upon graduation, Capt Gorgoni began active duty service as Chief, Logistics Plans for the 728th Tactical Control Squadron, Eglin AFB, Florida, where he directed the mobility planning function of the 300-member squadron. In May, 1987, he was reassigned to the 7020th Air Base Group, RAF Fairford, England as Chief, Resource Plans Division. In this capacity, he directed the logistics planning functions in support of rotational KC-135 and deployed B-52 aircraft. His final duty in this assignment was to serve as the base project officer for the drawdown of RAF Fairford to standby status, as part of the European force reductions. Captain Gorgoni continued his service at RAF Fairford until May, 1990, when he entered the Air Force Institute of Technology.

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