Order 7610.4K
Special Military Operations
SUBJ: SPECIAL MILITARY OPERATIONS

1. PURPOSE. This change transmits revised pages to Order 7610.4K, Special Military Operations, and the Briefing Guide.

2. DISTRIBUTION. This change is distributed to select offices in Washington headquarters, regional offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, all air traffic field facilities, international aviation field offices, and interested aviation public.


4. EXPLANATION OF CHANGES. See the Explanation of Changes attachment which has editorial corrections and changes submitted through normal procedures. The Briefing Guide lists only new or modified material, along with background and operational impact statements.

5. DISPOSITION OF TRANSMITTAL. Retain this transmittal until superseded by a new basic order.

6. PAGE CONTROL CHART. See the Page Control Chart attachment.

Linda M. Schuessler
Vice President, System Operations Services

Date: ____________________
**Special Military Operations**

**Explanation of Changes**

Direct questions through appropriate facility/region staff to the Office of Primary Interest (OPI), ATP-200

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**a. 1–3–1. ABBREVIATIONS**

Deletes the following abbreviations: (ATP-200)

<table>
<thead>
<tr>
<th>Abbreviation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ECCM</td>
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</tr>
</tbody>
</table>

**b. 1–3–2. DEFINITIONS**

Change terminology and abbreviation for “Electronic Countermeasures (ECM)” and “Electronic Counter Countermeasures (ECCM)” to read “Electronic Attack (EA).” (ATP-200)

**c. 4–12–1. AUTHORIZATION FOR INTERCEPTOR OPERATIONS**

Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**d. 4–12–2. CHANGING MILITARY OR ATC REQUIREMENTS**

Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**e. 4–12–3. AUTHORIZATION AND USE OF AFIO**

Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**f. 4–12–4. AFIO SUSPENSION**

Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**g. 4–12–5. INFORMATION PROVIDED TO AIR TRAFFIC CONTROL**

Changes title of the paragraph to “DECLARATION OF AFIO.” Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**h. 4–12–6. REQUEST FOR VERTICAL SEPARATION**

Changes title of the paragraph to “AIR TRAFFIC CONTROL RESPONSIBILITIES.” Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

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**i. 4–12–9. INFORMATION PROVIDED THE ADCF**

Changes title of the paragraph to “ADCF RESPONSIBILITIES.” Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**j. 4–12–10. INTERCEPTOR RESPONSIBILITIES**

Adds new paragraph to Section 12, FAA Authorization for Intercept Operations (AFIO). Reflects changes incorporated from FAA Notice 7610.73 and replaced Appendix 16. (ATP-200)

**k. 12–4–1. “FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS**

This change will give expeditious handling to teams responding to a potential or actual threat. (ATP-200)

**l. 12–4–3. ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION**

This change gives DOE aircraft special handling when conducting sampling flights. It also allows the USAF to conduct domestic sampling with special handling if the need arises. (ATP-200)

**m. 14–1–3. SPECIAL USE AIRSPACE MANAGEMENT SYSTEM (SAMS)**

Editorial/format changes identified in subparagraph b. (ATP-200)

**n. Appendix 16. FEDERAL AVIATION ADMINISTRATION AUTHORIZATION FOR INTERCEPTOR OPERATIONS (FAA AFIO)**

Appendix is cancelled and replaced with new “Memorandum of Understanding (MOU) Between the Federal Aviation Administration (FAA) and North American Aerospace Defense Command (NORAD) on Intercept Procedures.” (ATP-200)

**o. Entire order.** Change terminology and abbreviation for “Electronic Countermeasures (ECM)” and “Electronic Counter Countermeasures (ECCM)” to read “Electronic Attack (EA).” (ATP-200)

**p. Editorial/format changes were made where necessary.** Revision bars were not used due to the insignificant nature of the changes. (ATA-10)
Special Military Operations

7610.4K

Foreword

This order specifies procedures for air traffic control planning, coordination, and services during defense activities and special military operations. These procedures apply to all activities conducted in airspace controlled by or under the jurisdiction of the Federal Aviation Administration (FAA). The procedures contained herein shall be used as a planning guide by Department of Defense (DOD) personnel for operations in all areas. All facility personnel are required to be familiar with the provisions of this order which pertain to their operational responsibilities. Although every effort has been made to prescribe complete procedures for these activities, it is impossible to provide them to cover every circumstance. Therefore, when a situation arises for which there is no specific procedure covered in this order, personnel shall exercise their best judgment. For administrative purposes, the military services have included this order into their inventory. This has been done to emphasize its applicability to DOD personnel including the National Guard and the Reserve Forces. Operational control and administration of this order remains under the purview of the FAA. Any changes will be coordinated prior to adoption, consistent with FAA policy.

David B. Johnson
Acting Director of Air Traffic

Date: __________________
<table>
<thead>
<tr>
<th>REMOVE PAGES</th>
<th>DATED</th>
<th>INSERT PAGES</th>
<th>DATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents iii</td>
<td>2/19/04</td>
<td>Table of Contents iii</td>
<td>8/5/04</td>
</tr>
<tr>
<td>Table of Contents iv and v</td>
<td>2/19/04</td>
<td>Table of Contents iv and v</td>
<td>2/19/04</td>
</tr>
<tr>
<td>Table of Contents vi through ix</td>
<td>2/19/04</td>
<td>Table of Contents vi through ix</td>
<td>8/5/04</td>
</tr>
<tr>
<td>Table of Contents x</td>
<td>2/19/04</td>
<td>Table of Contents x</td>
<td>2/19/04</td>
</tr>
<tr>
<td>Table of Contents xvii</td>
<td>2/19/04</td>
<td>Table of Contents xvii</td>
<td>8/5/04</td>
</tr>
<tr>
<td>1−3−1 through 1−3−3</td>
<td>2/19/04</td>
<td>1−3−1 through 1−3−3</td>
<td>8/5/04</td>
</tr>
<tr>
<td>1−3−4</td>
<td>2/19/04</td>
<td>1−3−4</td>
<td>2/19/04</td>
</tr>
<tr>
<td>1−3−5</td>
<td>2/19/04</td>
<td>1−3−5</td>
<td>8/5/04</td>
</tr>
<tr>
<td>1−3−6</td>
<td>2/19/04</td>
<td>1−3−6</td>
<td>2/19/04</td>
</tr>
<tr>
<td>1−3−7 and 1−3−8</td>
<td>2/19/04</td>
<td>1−3−7 and 1−3−8</td>
<td>8/5/04</td>
</tr>
<tr>
<td>1−3−9</td>
<td>2/19/04</td>
<td>1−3−9</td>
<td>2/19/04</td>
</tr>
<tr>
<td>1−3−10 through 1−3−13</td>
<td>2/19/04</td>
<td>1−3−10 through 1−3−13</td>
<td>8/5/04</td>
</tr>
<tr>
<td>2−7−1 through 2−7−3</td>
<td>2/19/04</td>
<td>2−7−1 through 2−7−3</td>
<td>8/5/04</td>
</tr>
<tr>
<td>3−1−1</td>
<td>2/19/04</td>
<td>3−1−1</td>
<td>8/5/04</td>
</tr>
<tr>
<td>3−1−2</td>
<td>2/19/04</td>
<td>3−1−2</td>
<td>2/19/04</td>
</tr>
<tr>
<td>3−5−1</td>
<td>2/19/04</td>
<td>3−5−1</td>
<td>8/5/04</td>
</tr>
<tr>
<td>3−5−2</td>
<td>2/19/04</td>
<td>3−5−2</td>
<td>2/19/04</td>
</tr>
<tr>
<td>3−9−3</td>
<td>2/19/04</td>
<td>3−9−3</td>
<td>8/5/04</td>
</tr>
<tr>
<td>4−9−1</td>
<td>2/19/04</td>
<td>4−9−1</td>
<td>8/5/04</td>
</tr>
<tr>
<td>4−12−1 and 4−12−2</td>
<td>2/19/04</td>
<td>4−12−1 and 4−12−2</td>
<td>8/5/04</td>
</tr>
<tr>
<td>5−10−1</td>
<td>2/19/04</td>
<td>5−10−1</td>
<td>8/5/04</td>
</tr>
<tr>
<td>5−10−2</td>
<td>2/19/04</td>
<td>5−10−2</td>
<td>2/19/04</td>
</tr>
<tr>
<td>6−7−3</td>
<td>2/19/04</td>
<td>6−7−3</td>
<td>2/19/04</td>
</tr>
<tr>
<td>6−7−4 and 6−7−5</td>
<td>2/19/04</td>
<td>6−7−4 and 6−7−5</td>
<td>8/5/04</td>
</tr>
<tr>
<td>6−7−6</td>
<td>2/19/04</td>
<td>6−7−6</td>
<td>2/19/04</td>
</tr>
<tr>
<td>8−1−1 and 8−1−2</td>
<td>2/19/04</td>
<td>8−1−1 and 8−1−2</td>
<td>8/5/04</td>
</tr>
<tr>
<td>12−4−1 and 12−4−2</td>
<td>2/19/04</td>
<td>12−4−1 and 12−4−2</td>
<td>8/5/04</td>
</tr>
<tr>
<td>14−1−1</td>
<td>2/19/04</td>
<td>14−1−1</td>
<td>8/5/04</td>
</tr>
<tr>
<td>14−1−2</td>
<td>2/19/04</td>
<td>14−1−2</td>
<td>2/19/04</td>
</tr>
<tr>
<td>A16−1 through A16−3</td>
<td>2/19/04</td>
<td>A16−1 through A16−5</td>
<td>8/5/04</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

Chapter 1. Services and Responsibilities

Section 1. Introduction

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–1–1. PURPOSE</td>
<td>1–1–1</td>
</tr>
<tr>
<td>1–1–2. DISTRIBUTION</td>
<td>1–1–1</td>
</tr>
<tr>
<td>1–1–3. CANCELLATIONS</td>
<td>1–1–1</td>
</tr>
<tr>
<td>1–1–4. EXPLANATION OF CHANGES AND PUBLICATION DATES</td>
<td>1–1–1</td>
</tr>
<tr>
<td>1–1–5. EFFECTIVE DATE</td>
<td>1–1–1</td>
</tr>
</tbody>
</table>

Section 2. Application

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2–1. RESPONSIBILITIES</td>
<td>1–2–1</td>
</tr>
<tr>
<td>1–2–2. FAA/MILITARY MEMORANDUM OF UNDERSTANDING, AGREEMENT, EXECUTIVE ORDER</td>
<td>1–2–1</td>
</tr>
<tr>
<td>1–2–3. WORD MEANINGS</td>
<td>1–2–1</td>
</tr>
<tr>
<td>1–2–4. NOTES</td>
<td>1–2–1</td>
</tr>
<tr>
<td>1–2–5. ORDER CHANGES</td>
<td>1–2–1</td>
</tr>
<tr>
<td>1–2–6. MILITARY PROCEDURES IDENTIFICATION</td>
<td>1–2–2</td>
</tr>
<tr>
<td>1–2–7. REQUIREMENTS REVIEW</td>
<td>1–2–2</td>
</tr>
</tbody>
</table>

Section 3. Terms of Reference

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–3–1. ABBREVIATIONS</td>
<td>1–3–1</td>
</tr>
<tr>
<td>1–3–2. DEFINITIONS</td>
<td>1–3–4</td>
</tr>
</tbody>
</table>

Section 4. ATC Services by the Military

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–4–1. WHERE SERVICE MAY BE PROVIDED</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–2. APPROACH CONTROL AUTHORITY</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–3. FREQUENCY REQUIREMENTS</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–4. LETTERS OF AGREEMENT (LOA)</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–5. TOWER EN ROUTE CONTROL SERVICE</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–6. EVALUATION BY THE AIR TRAFFIC DIVISION</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–7. SUSPENDING APPROACH CONTROL AUTHORITY</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–8. USE OF MILITARY AUTHORITY ASSUMES RESPONSIBILITY FOR SEPARATION OF AIRCRAFT (MARSA)</td>
<td>1–4–1</td>
</tr>
<tr>
<td>1–4–9. RELEASE OF AIRCRAFT TO GROUND CONTROL APPROACH (GCA) UNITS</td>
<td>1–4–2</td>
</tr>
<tr>
<td>1–4–10. CONTROL OF FLIGHTS IN PATTERN</td>
<td>1–4–2</td>
</tr>
<tr>
<td>1–4–11. EXCHANGE OF INFORMATION</td>
<td>1–4–2</td>
</tr>
</tbody>
</table>

Section 5. Air Traffic Representative (ATREP)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–5–1. ASSIGNMENTS</td>
<td>1–5–1</td>
</tr>
<tr>
<td>1–5–2. RESPONSIBILITIES</td>
<td>1–5–1</td>
</tr>
<tr>
<td>1–5–3. FAMILIARIZATION FLIGHTS</td>
<td>1–5–1</td>
</tr>
<tr>
<td>1–5–4. REQUIRED ABSENCE</td>
<td>1–5–2</td>
</tr>
<tr>
<td>1–5–5. ALTERNATE AIR TRAFFIC REPRESENTATIVE</td>
<td>1–5–2</td>
</tr>
<tr>
<td>1–5–6. DUTIES OF ALTERNATE</td>
<td>1–5–2</td>
</tr>
</tbody>
</table>
Table of Contents

Section 6. FAA Military Liaison Officers’ Responsibilities

1–6–1. ACTIONS ......................................................... 1–6–1

Section 7. Miscellaneous

1–7–1. ASSIGNMENT OF MILITARY TOWER OFFICERS .............. 1–7–1
1–7–2. SUPERVISOR OF FLYING (SOF) ................................. 1–7–1
1–7–3. MILITARY AIRSPACE MANAGERS ............................. 1–7–1

Chapter 2. Exercise Planning

Section 1. General

2–1–1. PURPOSE .......................................................... 2–1–1
2–1–2. POLICY ........................................................... 2–1–1
2–1–3. PROCEDURES ..................................................... 2–1–1
2–1–4. SPECIAL USE AIRSPACE (SUA) ................................. 2–1–1
2–1–5. MILITARY AIRSPACE PLANNING ................................. 2–1–1
2–1–6. CHANGES IN REQUIREMENTS .................................... 2–1–2
2–1–7. PUBLIC NOTIFICATION ........................................... 2–1–2
2–1–8. PLANNING CONFERENCES ...................................... 2–1–2

Section 2. Air Combat Command (ACC) Exercise/Operational Readiness Inspection (ORI)

2–2–1. EXERCISE/ORI .................................................. 2–2–1
2–2–2. NOTIFICATION OF EXERCISE/ORI ............................. 2–2–1

Section 3. Air Mobility Command (AMC) Exercise/Operational Readiness Inspection (ORI)

2–3–1. ORI ................................................................. 2–3–1
2–3–2. NOTIFICATION OF ORI ........................................... 2–3–1

Section 4. United States Strategic Command (USSTRATCOM) Operational Readiness Inspection (ORI)

2–4–1. ORI BOOKLETS .................................................. 2–4–1
2–4–2. NOTIFICATION OF ORI ........................................... 2–4–1
2–4–3. NOTIFICATION FORMAT .......................................... 2–4–1
2–4–4. MISSION DELAYS ................................................ 2–4–1

Section 5. Air Defense Exercises

2–5–1. RADAR MONITORING OF FAKER AIRCRAFT .................. 2–5–1
2–5–2. SEPARATION RESPONSIBILITY BETWEEN INTERCEPTOR/FAKER AIRCRAFT ........................................ 2–5–1
2–5–3. CODE ASSIGNMENT WITHIN NORAD AREAS ................... 2–5–1
2–5–4. STRIKE/FAKER IDENTIFICATION AND UNSAFE PROCEDURES .... 2–5–1
### Section 6. Navy Exercises

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2−6−1. AIR CAPABLE SHIP OPERATIONS</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−2. FLEET READINESS EXERCISES</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−3. CENTRAL ALTITUDE RESERVATION FUNCTION (CARF) APPROVED STATIONARY ALTRVs</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−4. FLEET ELECTRONIC WARFARE SUPPORT GROUP</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−5. FAA/NAVY ATC PLANNING CONFERENCES</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−6. AIR CAPABLE SHIP FLYOFFS</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−7. LIAISON</td>
<td>2−6−1</td>
</tr>
<tr>
<td>2−6−8. FLEET AREA CONTROL AND SURVEILLANCE FACILITIES (FACSFAC)</td>
<td>2−6−1</td>
</tr>
</tbody>
</table>

### Section 7. Electronic Attack (EA) Missions/Exercises

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2−7−1. APPLICATION</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−2. GENERAL</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−3. PARTICIPATION</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−4. COORDINATION</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−5. DURATION</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−6. ESTABLISHMENT</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−7. EXECUTION</td>
<td>2−7−1</td>
</tr>
<tr>
<td>2−7−8. EA CLEARANCE</td>
<td>2−7−2</td>
</tr>
<tr>
<td>2−7−9. SUSPENSION OF EA</td>
<td>2−7−2</td>
</tr>
<tr>
<td>2−7−10. EA ACTIVITY TABLE</td>
<td>2−7−2</td>
</tr>
</tbody>
</table>

### Chapter 3. Altitude Reservation (ALTRV) Procedures

#### Section 1. General

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3−1−1. PURPOSE</td>
<td>3−1−1</td>
</tr>
<tr>
<td>3−1−2. POLICY</td>
<td>3−1−1</td>
</tr>
<tr>
<td>3−1−3. APPLICATION</td>
<td>3−1−1</td>
</tr>
<tr>
<td>3−1−4. ALTERNATE REFUELING TRACKS</td>
<td>3−1−2</td>
</tr>
<tr>
<td>3−1−5. USER REQUIREMENTS</td>
<td>3−1−2</td>
</tr>
<tr>
<td>3−1−6. ALTITUDE CRITERIA</td>
<td>3−1−2</td>
</tr>
</tbody>
</table>

#### Section 2. Central Altitude Reservation Function (CARF) Responsibilities

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3−2−1. CANADIAN AND OVERSEAS</td>
<td>3−2−1</td>
</tr>
<tr>
<td>3−2−2. CLEARANCE AUTHORITY</td>
<td>3−2−1</td>
</tr>
<tr>
<td>3−2−3. ALTRV APPROVAL REQUEST (APREQ)</td>
<td>3−2−1</td>
</tr>
<tr>
<td>3−2−4. ALTRV APPROVAL (APVL)</td>
<td>3−2−1</td>
</tr>
<tr>
<td>3−2−5. NOTIFICATIONS</td>
<td>3−2−2</td>
</tr>
<tr>
<td>3−2−6. AIRSPACE NOT UNDER CARF JURISDICTION</td>
<td>3−2−2</td>
</tr>
<tr>
<td>3−2−7. RESOLUTION OF CONFLICTS BETWEEN MISSIONS</td>
<td>3−2−2</td>
</tr>
<tr>
<td>3−2−8. FORMULATE ALTITUDE RESERVATION NOTICE TO AIRMEN (NOTAM)</td>
<td>3−2−2</td>
</tr>
<tr>
<td>3−2−9. ACKNOWLEDGMENT OF ALTRV APREQs</td>
<td>3−2−2</td>
</tr>
<tr>
<td>3−2−10. MESSAGES CLASSIFIED AS ENCRYPT FOR TRANSMISSION ONLY (EFTO)</td>
<td>3−2−2</td>
</tr>
<tr>
<td>3−2−11. LETTERS OF AGREEMENT</td>
<td>3−2−2</td>
</tr>
</tbody>
</table>
Table of Contents

Section 3. ATC Facility Responsibilities

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–3–1. APREQ REVIEW AND COORDINATION</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–2. ARTCC/CERAP APPROVED ALTRVs</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–3. MISSION SEPARATION</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–4. DELIVERY INSTRUCTIONS</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–5. FLIGHT PROGRESS STRIPS</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–6. NOTIFICATION</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–7. ISSUE ALTITUDE RESERVATION NOTAM</td>
<td>3–3–1</td>
</tr>
<tr>
<td>3–3–8. TRUSTED AGENTS</td>
<td>3–3–2</td>
</tr>
<tr>
<td>3–3–9. CHANGES TO ALTRV ROUTING AND ALTITUDE</td>
<td>3–3–2</td>
</tr>
</tbody>
</table>

Section 4. Mission Planning

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–4–1. RESOLVING MISSION CONFLICTS</td>
<td>3–4–1</td>
</tr>
<tr>
<td>3–4–2. ORDER OF PRECEDENCE</td>
<td>3–4–1</td>
</tr>
<tr>
<td>3–4–3. SPECIFY VOID TIME</td>
<td>3–4–2</td>
</tr>
<tr>
<td>3–4–4. RESCHEDULING</td>
<td>3–4–2</td>
</tr>
<tr>
<td>3–4–5. DELAY NOTIFICATIONS</td>
<td>3–4–2</td>
</tr>
<tr>
<td>3–4–6. EN ROUTE TIMING</td>
<td>3–4–2</td>
</tr>
</tbody>
</table>

Section 5. Originator Responsibilities

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–5–1. TWO OR MORE COMMANDS</td>
<td>3–5–1</td>
</tr>
<tr>
<td>3–5–2. TWO OR MORE SERVICES</td>
<td>3–5–1</td>
</tr>
<tr>
<td>3–5–3. MISSIONS REQUIRING EXTENSIVE ATC SUPPORT</td>
<td>3–5–1</td>
</tr>
<tr>
<td>3–5–4. PROJECT OFFICER</td>
<td>3–5–1</td>
</tr>
<tr>
<td>3–5–5. ALTRVs ENTERING U.S. CTA/FIR</td>
<td>3–5–2</td>
</tr>
<tr>
<td>3–5–6. NO–NOTICE AND/OR DO NOT PASS TO AIR DEFENSE RADAR (NOPAR) MISSION</td>
<td>3–5–2</td>
</tr>
</tbody>
</table>

Section 6. Separation

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–6–1. PLANNING/APPROVAL OF APREQs</td>
<td>3–6–1</td>
</tr>
<tr>
<td>3–6–2. MILITARY AUTHORITY ASSUMES AUTHORITY FOR SEPARATION OF AIRCRAFT (MARSA)</td>
<td>3–6–1</td>
</tr>
<tr>
<td>3–6–3. IN–FLIGHT SEPARATION</td>
<td>3–6–1</td>
</tr>
<tr>
<td>3–6–4. POSITION REPORTS</td>
<td>3–6–1</td>
</tr>
<tr>
<td>3–6–5. USE OF AIRSPACE THROUGH ALTRV</td>
<td>3–6–1</td>
</tr>
</tbody>
</table>

Section 7. Special/Emergency ALTRVs

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–7–1. INTERNATIONAL PRESIDENTIAL FLIGHTS</td>
<td>3–7–1</td>
</tr>
<tr>
<td>3–7–2. PROCESSING WAIVERS</td>
<td>3–7–1</td>
</tr>
<tr>
<td>3–7–3. EMERGENCY ALTITUDE RESERVATIONS</td>
<td>3–7–1</td>
</tr>
</tbody>
</table>

Section 8. Altitude Reservation NOTAMs

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–8–1. CRITERIA</td>
<td>3–8–1</td>
</tr>
<tr>
<td>3–8–2. FORMULATION AND DISSEMINATION</td>
<td>3–8–1</td>
</tr>
</tbody>
</table>
# Section 9. Altitude Reservation Approval Request (ALTRV APREQ), Format, and Amendments

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3−9−1. ALTRV APREQs</td>
<td>3−9−1</td>
</tr>
<tr>
<td>3−9−2. FORMAT</td>
<td>3−9−1</td>
</tr>
<tr>
<td>3−9−3. ALTRV APREQ AMENDMENTS</td>
<td>3−9−3</td>
</tr>
</tbody>
</table>

# Section 10. Flight Path Format Components

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3−10−1. INTRODUCTION</td>
<td>3−10−1</td>
</tr>
<tr>
<td>3−10−2. DEFINITION</td>
<td>3−10−1</td>
</tr>
<tr>
<td>3−10−3. FORMAT</td>
<td>3−10−1</td>
</tr>
<tr>
<td>3−10−4. COMPONENTS</td>
<td>3−10−1</td>
</tr>
<tr>
<td>3−10−5. EVENTS THAT PRECEDE FIX/TIME</td>
<td>3−10−6</td>
</tr>
<tr>
<td>3−10−6. ALTRV APREQ EXAMPLES</td>
<td>3−10−6</td>
</tr>
</tbody>
</table>

# Chapter 4. FAA/NORAD/PACAF Procedures for Control of Air Defense Aircraft

## Section 1. General

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4−1−1. POLICY</td>
<td>4−1−1</td>
</tr>
<tr>
<td>4−1−2. PROVISION OF ATC SERVICES</td>
<td>4−1−1</td>
</tr>
<tr>
<td>4−1−3. FAA AND MILITARY APPROVAL REQUIRED</td>
<td>4−1−1</td>
</tr>
</tbody>
</table>

## Section 2. Additional Requirements

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4−2−1. WHEN NORAD/PACAF LEVELS OF OPERATION CHANGE</td>
<td>4−2−1</td>
</tr>
<tr>
<td>4−2−2. ALTITUDE INFORMATION</td>
<td>4−2−1</td>
</tr>
<tr>
<td>4−2−3. LETTERS OF AGREEMENT</td>
<td>4−2−1</td>
</tr>
<tr>
<td>4−2−4. WACS/NORAD SPECIAL FLIGHTS</td>
<td>4−2−1</td>
</tr>
</tbody>
</table>

## Section 3. Defense Emergencies

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4−3−1. DUTY STATUS</td>
<td>4−3−1</td>
</tr>
</tbody>
</table>

## Section 4. Nuclear Detonation (NUDET) Reports

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4−4−1. FORWARDING INFORMATION</td>
<td>4−4−1</td>
</tr>
<tr>
<td>4−4−2. FORMAT</td>
<td>4−4−1</td>
</tr>
<tr>
<td>4−4−3. RETAINING DATA</td>
<td>4−4−1</td>
</tr>
<tr>
<td>4−4−4. AVOIDANCE OF HAZARDOUS RADIATION AREAS</td>
<td>4−4−1</td>
</tr>
<tr>
<td>4−4−5. GLASSEYE REPORTS</td>
<td>4−4−1</td>
</tr>
</tbody>
</table>

## Section 5. Air Defense Liaison Officers (ADLOs)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4−5−1. REGION CONFIGURATION CHART</td>
<td>4−5−1</td>
</tr>
<tr>
<td>4−5−2. ASSIGNMENTS</td>
<td>4−5−1</td>
</tr>
<tr>
<td>4−5−3. DUTIES WITH NORAD HEADQUARTERS OR NORAD REGION/SECTOR COMMANDER'S STAFF</td>
<td>4−5−1</td>
</tr>
<tr>
<td>4−5−4. ADDITIONAL ADLO DUTIES WITH NORAD SECTORS</td>
<td>4−5−2</td>
</tr>
<tr>
<td>4−5−5. ACCESS TO ADCF</td>
<td>4−5−2</td>
</tr>
<tr>
<td>4−5−6. CONVENE PERIODIC MEETINGS</td>
<td>4−5−2</td>
</tr>
</tbody>
</table>
Section 6. Interceptor Operations

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–6–1. DIVERSION TO ALTERNATE BASE</td>
<td>4–6–1</td>
</tr>
<tr>
<td>4–6–2. FAA RESPONSIBILITY</td>
<td>4–6–1</td>
</tr>
</tbody>
</table>

Section 7. Control Instructions

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–7–1. CONTROL BY CANADIAN NORAD FACILITIES</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–2. AGREEMENT BETWEEN FAA AND MILITARY</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–3. TRANSFER CONTROL AT REQUEST OF ADCF</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–4. RELEASE OF AIRCRAFT TO THE ADCF</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–5. TIME OF TRANSFER OF CONTROL</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–6. CONTROL JURISDICTION OF INTERCEPTOR AIRCRAFT</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–7. ACTIVE SCRAMBLES</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–8. INTERCEPTOR OPERATIONS BEYOND U.S. TERRITORIAL LIMIT</td>
<td>4–7–1</td>
</tr>
<tr>
<td>4–7–9. SCRAMBLE AIRPORT LISTING</td>
<td>4–7–2</td>
</tr>
<tr>
<td>4–7–10. ADC AIR DIVISIONS/FAA REGIONS COORDINATION</td>
<td>4–7–2</td>
</tr>
<tr>
<td>4–7–11. ALERT FORCE EVALUATION (AFE)</td>
<td>4–7–2</td>
</tr>
</tbody>
</table>

Section 8. Flush/Dispersal Operations

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–8–1. NORAD/PIAD FLUSH/DISPERSAL REQUIREMENTS</td>
<td>4–8–1</td>
</tr>
<tr>
<td>4–8–2. CONDUCT OF OPERATIONS</td>
<td>4–8–1</td>
</tr>
<tr>
<td>4–8–3. LETTER OF AGREEMENT</td>
<td>4–8–1</td>
</tr>
<tr>
<td>4–8–4. PRIOR NOTIFICATION</td>
<td>4–8–1</td>
</tr>
<tr>
<td>4–8–5. “EXERCISE FLUSH”</td>
<td>4–8–1</td>
</tr>
<tr>
<td>4–8–6. “FLUSH”</td>
<td>4–8–1</td>
</tr>
</tbody>
</table>

Section 9. Air Defense Aircraft Emergency Procedures

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–9–1. ARTCC/CERAP CONTROL OF AIR DEFENSE AIRCRAFT</td>
<td>4–9–1</td>
</tr>
<tr>
<td>4–9–2. ADCF CONTROL OF AIR DEFENSE AIRCRAFT</td>
<td>4–9–1</td>
</tr>
<tr>
<td>4–9–3. USE OF TERM “EMERGENCY CALL”</td>
<td>4–9–1</td>
</tr>
</tbody>
</table>

Section 10. Flight Plans

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–10–1. PREFILED AND ABBREVIATED FLIGHT PLANS</td>
<td>4–10–1</td>
</tr>
<tr>
<td>4–10–2. DAILY TRAINING MISSIONS</td>
<td>4–10–1</td>
</tr>
</tbody>
</table>

Section 11. Scramble/Airborne Orders

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–11–1. SCRAMBLE ORDERS</td>
<td>4–11–1</td>
</tr>
<tr>
<td>4–11–2. INFORMATION FURNISHED TO ATC FACILITY</td>
<td>4–11–1</td>
</tr>
<tr>
<td>4–11–3. AIRBORNE ORDERS</td>
<td>4–11–1</td>
</tr>
</tbody>
</table>

Section 12. FAA Authorization for Interceptor Operations (AFIO)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–12–1. AUTHORIZATION FOR INTERCEPTOR OPERATIONS</td>
<td>4–12–1</td>
</tr>
<tr>
<td>4–12–2. CHANGING MILITARY OR ATC REQUIREMENTS</td>
<td>4–12–1</td>
</tr>
<tr>
<td>4–12–3. AUTHORIZATION AND USE OF AFIO</td>
<td>4–12–1</td>
</tr>
<tr>
<td>4–12–4. AFIO SUSPENSION</td>
<td>4–12–1</td>
</tr>
<tr>
<td>4–12–5. DECLARATION OF AFIO</td>
<td>4–12–1</td>
</tr>
<tr>
<td>4–12–6. AIR TRAFFIC CONTROL RESPONSIBILITIES</td>
<td>4–12–1</td>
</tr>
<tr>
<td>4–12–7. USE OF MODE 3/A CODE 7777 UNDER AFIO</td>
<td>4–12–2</td>
</tr>
</tbody>
</table>
Chapter 5. Aircraft Movement Information Service (AMIS)

Section 1. Scope

5–1–1. PURPOSE .......................................................... 5–1–1
5–1–2. APPLICABILITY ..................................................... 5–1–1
5–1–3. NATIONAL REQUIREMENTS ................................. 5–1–1
5–1–4. LOCAL REQUIREMENTS ..................................... 5–1–1

Section 2. Regional Office/Air Defense Liaison Officer (ADLO) Responsibilities

5–2–1. DEVELOPMENT .................................................. 5–2–1
5–2–2. COORDINATION WITH ADLO ............................. 5–2–1
5–2–3. COORDINATING WITH MILITARY AUTHORITY ........ 5–2–1
5–2–4. SIGNATURE ....................................................... 5–2–1
5–2–5. CONTENT ......................................................... 5–2–1
5–2–6. DISTRIBUTION .................................................... 5–2–1
5–2–7. STAFFING AMIS POSITIONS ............................... 5–2–1

Section 3. Tower/RAPCON/RATCF/FACSFAC/FSS Responsibilities

5–3–1. FORWARDING INFORMATION .............................. 5–3–1
5–3–2. SECURITY CONTROL OF AIR TRAFFIC .................. 5–3–1

Section 4. ARTCC Responsibilities

5–4–1. SECURITY CONTROL OF AIR TRAFFIC .................... 5–4–1
5–4–2. EXCEPTIONS TO FURNISHING AMIS ....................... 5–4–1
5–4–3. SPECIAL INTEREST FLIGHTS ............................... 5–4–1
5–4–4. FACILITY DIRECTIVES ....................................... 5–4–1
5–4–5. MONITOR/ANALYZE AMIS ................................. 5–4–1
5–4–6. AMIS UNKNOWN/INTERCEPT LOGS ..................... 5–4–1
5–4–7. EMERGENCY AMIS .......................................... 5–4–1


5–5–1. AMIS WITHIN AN ADIZ–IFR ............................... 5–5–1
5–5–2. AMIS WITHIN AN ADIZ–DVFR ............................ 5–5–1
5–5–3. FORWARDING DVFR INFORMATION ........................ 5–5–1
5–5–4. STOPOVER DVFR FLIGHT PLANS .......................... 5–5–1
5–5–5. ADDRESSING DVFR FLIGHT PLAN MESSAGES ......... 5–5–1

Section 6. Information Dissemination

5–6–1. ADIZ INFORMATION ......................................... 5–6–1
5–6–2. INITIAL AIRCRAFT MOVEMENT MESSAGES .......... 5–6–1
5–6–3. AIR DEFENSE FACILITY REQUEST FOR TRANSMISSION 5–6–1
5–6–4. NAVY FLIGHT PLANS ....................................... 5–6–1
5–6–5. SUPPLEMENTAL IDENTIFICATION DATA ............... 5–6–1
<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–6–6. INTERPHONE LINE CHECK</td>
<td>5–6–2</td>
</tr>
<tr>
<td>5–6–7. TEST ROCC/SOCC MESSAGE</td>
<td>5–6–2</td>
</tr>
</tbody>
</table>

**Section 7. Special Interest Reporting**

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–7–1. CAT TRACK FLIGHTS</td>
<td>5–7–1</td>
</tr>
<tr>
<td>5–7–2. DEPARTURES WITHIN NORAD RADAR COVERAGE</td>
<td>5–7–1</td>
</tr>
<tr>
<td>5–7–3. DEPARTURES OUTSIDE NORAD RADAR COVERAGE</td>
<td>5–7–1</td>
</tr>
<tr>
<td>5–7–4. RADAR IDENTITY LOST</td>
<td>5–7–1</td>
</tr>
<tr>
<td>5–7–5. AMIS FOR OTHER SPECIFIC FLIGHTS</td>
<td>5–7–1</td>
</tr>
<tr>
<td>5–7–6. WITHHOLDING AIRCRAFT MOVEMENT INFORMATION</td>
<td>5–7–2</td>
</tr>
<tr>
<td>5–7–7. AIR DEFENSE EXERCISE FLIGHT PROGRESS STRIPS</td>
<td>5–7–2</td>
</tr>
<tr>
<td>5–7–8. PRESIDENTIAL AIRCRAFT</td>
<td>5–7–2</td>
</tr>
</tbody>
</table>

**Section 8. Violations of ADIZ Regulations (14 CFR Part 99)**

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–8–1. UNKNOWN RADAR TRACK</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–2. CHECK DATA AT HAND</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–3. FORWARD KNOWN AIRCRAFT DATA TO NORAD</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–4. DETERMINE CAUSE FOR UNKNOWN RADAR TRACK</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–5. AIRCRAFT IDENTIFICATION BEFORE INTERCEPT</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–6. AIRCRAFT IDENTIFICATION AFTER INTERCEPT</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–7. RETAIN DATA</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–8. TIME ENTRY</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–9. DEVIATION OF NORAD ADIZ TOLERANCES</td>
<td>5–8–1</td>
</tr>
<tr>
<td>5–8–10. TELEPHONE NOTIFICATION BY ARTCC/CERAP</td>
<td>5–8–2</td>
</tr>
<tr>
<td>5–8–11. REVIEW OF DEVIATIONS BY ARTCC/CERAP AND ADCF</td>
<td>5–8–2</td>
</tr>
</tbody>
</table>

**Section 9. Special Interest Flights—Cuba**

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–9–1. PROVIDE AMIS</td>
<td>5–9–1</td>
</tr>
<tr>
<td>5–9–2. NORAD SPECIAL INTEREST FLIGHTS</td>
<td>5–9–1</td>
</tr>
<tr>
<td>5–9–3. INFORMATION FURNISHED</td>
<td>5–9–1</td>
</tr>
<tr>
<td>5–9–4. MARKING FLIGHT PROGRESS STRIPS</td>
<td>5–9–1</td>
</tr>
<tr>
<td>5–9–5. AMIS—CUBA</td>
<td>5–9–1</td>
</tr>
</tbody>
</table>

**Section 10. NORAD Aircraft Movement Message Format**

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–10–1. NORAD AIRCRAFT MOVEMENT MESSAGES</td>
<td>5–10–1</td>
</tr>
</tbody>
</table>

**Chapter 6. Security Control of Air Traffic and Navigation Aids (SCATANA)**

**Section 1. General**

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–1–1. SCOPE</td>
<td>6–1–1</td>
</tr>
<tr>
<td>6–1–2. COMMAND AUTHORITY</td>
<td>6–1–1</td>
</tr>
</tbody>
</table>

**Section 2. Responsibilities**

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–2–1. IMPLEMENTATION INSTRUCTIONS</td>
<td>6–2–1</td>
</tr>
<tr>
<td>6–2–2. NORAD DISSEMINATION</td>
<td>6–2–1</td>
</tr>
<tr>
<td>6–2–3. NORAD/ARTCC ALIGNMENT</td>
<td>6–2–1</td>
</tr>
<tr>
<td>6–2–4. DEVELOP LOCAL PROCEDURES</td>
<td>6–2–1</td>
</tr>
</tbody>
</table>
### Section 3. Air Traffic Control System Command Center (ATCSCC)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–3–1. MAINTAIN SCATANA DIRECTIVES</td>
<td>6–3–1</td>
</tr>
<tr>
<td>6–3–2. NOTIFY FIELD FACILITIES</td>
<td>6–3–1</td>
</tr>
<tr>
<td>6–3–3. ISSUE FDC NOTAM</td>
<td>6–3–1</td>
</tr>
<tr>
<td>6–3–4. DEVELOP PROCEDURES</td>
<td>6–3–1</td>
</tr>
</tbody>
</table>

### Section 4. ARTCC/CERAP Actions

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–4–1. MAINTAIN SCATANA DIRECTIVES</td>
<td>6–4–1</td>
</tr>
<tr>
<td>6–4–2. NOTIFY FIELD FACILITIES</td>
<td>6–4–1</td>
</tr>
<tr>
<td>6–4–3. DEVELOP PROCEDURES</td>
<td>6–4–1</td>
</tr>
<tr>
<td>6–4–4. SCATANA ACTION FORMS</td>
<td>6–4–1</td>
</tr>
<tr>
<td>6–4–5. EVALUATE TEST ACTIONS</td>
<td>6–4–1</td>
</tr>
<tr>
<td>6–4–6. ACTIONS BASED ON INSTRUCTIONS FROM MILITARY</td>
<td>6–4–1</td>
</tr>
<tr>
<td>6–4–7. DIVERSION AIRPORTS</td>
<td>6–4–2</td>
</tr>
<tr>
<td>6–4–8. DISTRIBUTION OF DIVERSION AIRPORT LISTS</td>
<td>6–4–2</td>
</tr>
</tbody>
</table>

### Section 5. Facility Actions

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–5–1. SCATANA ACTION FORMS AT OPERATING POSITIONS</td>
<td>6–5–1</td>
</tr>
<tr>
<td>6–5–2. COMPLY WITH ARTCC/CERAP INSTRUCTIONS</td>
<td>6–5–1</td>
</tr>
</tbody>
</table>

### Section 6. ADLO/Regional Office Actions

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–6–1. NARRATIVE REPORTS</td>
<td>6–6–1</td>
</tr>
<tr>
<td>6–6–2. SCATANA PLAN SUPPLEMENTS</td>
<td>6–6–1</td>
</tr>
</tbody>
</table>

### Section 7. Diversion Airports

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–7–1. INSTRUCTIONS FOR COMPILING DIVERSION AIRPORT LISTS AND HOW TO USE THE AVAILABLE LANDING LENGTH DATA</td>
<td>6–7–1</td>
</tr>
<tr>
<td>6–7–2. DIVERSION AIRPORTS LANDING LENGTHS (DISTANCES) REQUIRED FOR MINIMUM DIVERSION AIRPORTS AND DESIRED DIVERSION AIRPORTS</td>
<td>6–7–2</td>
</tr>
</tbody>
</table>

### Chapter 7. Escort of Hijacked Aircraft

#### Section 1. General

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7–1–1. PURPOSE</td>
<td>7–1–1</td>
</tr>
<tr>
<td>7–1–2. REQUESTS FOR SERVICE</td>
<td>7–1–1</td>
</tr>
<tr>
<td>7–1–3. HANDLING PRIORITY</td>
<td>7–1–1</td>
</tr>
<tr>
<td>7–1–4. CONTROL RESPONSIBILITIES FOR U.S. AIRSPACE</td>
<td>7–1–1</td>
</tr>
<tr>
<td>7–1–5. CONTROL RESPONSIBILITIES FOR CANADIAN AIRSPACE</td>
<td>7–1–1</td>
</tr>
<tr>
<td>7–1–6. AIR/GROUND COMMUNICATIONS SECURITY</td>
<td>7–1–1</td>
</tr>
<tr>
<td>7–1–7. WEATHER/FLIGHT SAFETY LIMITATIONS</td>
<td>7–1–2</td>
</tr>
</tbody>
</table>

#### Section 2. Escort Procedures

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7–2–1. FACILITY NOTIFICATION</td>
<td>7–2–1</td>
</tr>
<tr>
<td>7–2–2. PILOT NOTIFICATION</td>
<td>7–2–1</td>
</tr>
<tr>
<td>7–2–3. VECTORS</td>
<td>7–2–1</td>
</tr>
</tbody>
</table>
Table of Contents

Section 3. Replacement/Recovery of Escort Aircraft
7−3−1. REPLACEMENT RESPONSIBILITIES 7−3−1
7−3−2. RECOVERY RESPONSIBILITIES 7−3−1
7−3−3. RETURN−TO−BASE 7−3−1
7−3−4. REFUELING OPERATIONS 7−3−1

Section 4. Forwarding Information
7−4−1. FAA HEADQUARTERS REQUIREMENTS 7−4−1
7−4−2. POSITION REPORTS WITHIN NORAD RADAR COVERAGE 7−4−1
7−4−3. POSITION REPORTS OUTSIDE NORAD RADAR COVERAGE 7−4−1

Section 5. Mission Termination
7−5−1. TERMINATION AUTHORITY 7−5−1
7−5−2. OVERFLIGHT CLEARANCE 7−5−1

Chapter 8. Antidrug Operations

Section 1. General
8−1−1. PURPOSE 8−1−1
8−1−2. REQUESTS FOR SERVICE 8−1−1
8−1−3. HANDLING PRIORITY 8−1−1
8−1−4. RESPONSIBILITIES 8−1−1
8−1−5. SPECIAL AIRSPACE REQUIREMENTS 8−1−1
8−1−6. AIR/GROUND COMMUNICATIONS SECURITY 8−1−2
8−1−7. WEATHER/FLIGHT SAFETY LIMITATIONS 8−1−2
8−1−8. TWO−WAY RADIO COMMUNICATIONS FAILURE 8−1−2

Section 2. Departure Procedures
8−2−1. FACILITY NOTIFICATION 8−2−1

Section 3. Surveillance Procedures
8−3−1. INTERCEPT RESPONSIBILITY AND POSITIONING INSTRUCTIONS 8−3−1
8−3−2. ATC CLEARANCE REQUIREMENTS 8−3−1
8−3−3. RADAR REQUIREMENTS 8−3−1
8−3−4. TERMINATION HEADING 8−3−1

Section 4. Replacement/Recovery of Aircraft
8−4−1. REPLACEMENT RESPONSIBILITIES 8−4−1
8−4−2. RECOVERY RESPONSIBILITIES 8−4−1
8−4−3. RETURN−TO−BASE (RTB) 8−4−1
8−4−4. REFUELING OPERATIONS 8−4−1

Section 5. Forwarding Information
8−5−1. POSITION REPORTING REQUIREMENTS 8−5−1
Chapter 9. Military Operations Requirements

Section 1. Criteria

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9−1−1. PURPOSE</td>
<td>9−1−1</td>
</tr>
<tr>
<td>9−1−2. POLICY</td>
<td>9−1−1</td>
</tr>
<tr>
<td>9−1−3. AIRSPACE DESCRIPTION</td>
<td>9−1−1</td>
</tr>
<tr>
<td>9−1−4. LIMITATIONS</td>
<td>9−1−1</td>
</tr>
<tr>
<td>9−1−5. LETTERS OF AGREEMENT/PROCEDURE</td>
<td>9−1−1</td>
</tr>
</tbody>
</table>

Section 2. ATCAA and MOA Procedures

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9−2−1. REQUIREMENT</td>
<td>9−2−1</td>
</tr>
<tr>
<td>9−2−2. SUBMISSION OF AIR TRAFFIC CONTROL ASSIGNED AIRSPACE (ATCAA) DATA</td>
<td>9−2−1</td>
</tr>
<tr>
<td>9−2−3. USING AGENCY RESPONSIBILITIES</td>
<td>9−2−1</td>
</tr>
<tr>
<td>9−2−4. CONTROLLING AGENCY RESPONSIBILITY</td>
<td>9−2−2</td>
</tr>
<tr>
<td>9−2−5. ATC CONTROL WITHIN ATCAAs AND MOAs</td>
<td>9−2−2</td>
</tr>
<tr>
<td>9−2−6. NONRADAR AND COMMUNICATIONS</td>
<td>9−2−2</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9−3−1. OPERATION OF AIRCRAFT ARRESTING SYSTEMS</td>
<td>9−3−1</td>
</tr>
<tr>
<td>9−3−2. ARRESTING SYSTEMS CONTROL PANELS</td>
<td>9−3−1</td>
</tr>
<tr>
<td>9−3−3. ACTION REQUIRED BY FACILITY AIR TRAFFIC MANAGER</td>
<td>9−3−1</td>
</tr>
<tr>
<td>9−3−4. PUBLICATION OF INSTALLATION</td>
<td>9−3−2</td>
</tr>
<tr>
<td>9−3−5. LIABILITY AGREEMENTS FOR ARRESTING SYSTEMS</td>
<td>9−3−2</td>
</tr>
<tr>
<td>9−3−6. SINGLE FREQUENCY APPROACH (SFA)</td>
<td>9−3−2</td>
</tr>
<tr>
<td>9−3−7. SIMULATED FLAMEOUT (SFO)/EMERGENCY LANDING PATTERN (ELP) OPERATIONS</td>
<td>9−3−2</td>
</tr>
<tr>
<td>9−3−8. CELESTIAL NAVIGATION (CELNAV) TRAINING</td>
<td>9−3−3</td>
</tr>
</tbody>
</table>

Chapter 10. Aerial Refueling

Section 1. General

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10−1−1. PURPOSE</td>
<td>10−1−1</td>
</tr>
<tr>
<td>10−1−2. OBJECTIVE</td>
<td>10−1−1</td>
</tr>
<tr>
<td>10−1−3. RESPONSIBILITY</td>
<td>10−1−1</td>
</tr>
<tr>
<td>10−1−4. SEPARATION</td>
<td>10−1−1</td>
</tr>
<tr>
<td>10−1−5. DEVIATIONS</td>
<td>10−1−1</td>
</tr>
<tr>
<td>10−1−6. CHRONOLOGY</td>
<td>10−1−1</td>
</tr>
</tbody>
</table>

Section 2. Track Requirements

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10−2−1. DESCRIPTION</td>
<td>10−2−1</td>
</tr>
<tr>
<td>10−2−2. NAVIGATION ALONG AIR REFUELING TRACK</td>
<td>10−2−1</td>
</tr>
<tr>
<td>10−2−3. ARIP ESTABLISHMENTS</td>
<td>10−2−1</td>
</tr>
<tr>
<td>10−2−4. DEGREE–DISTANCE TRACK DEFINITION</td>
<td>10−2−1</td>
</tr>
<tr>
<td>10−2−5. TANKER ORBIT PATTERNS</td>
<td>10−2−1</td>
</tr>
</tbody>
</table>
### Section 3. Anchor Requirements

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10−3−1. DESCRIPTION</td>
<td>10−3−1</td>
</tr>
<tr>
<td>10−3−2. NAVIGATION WITHIN ANCHOR AREA</td>
<td>10−3−1</td>
</tr>
<tr>
<td>10−3−3. ARIP ESTABLISHMENT</td>
<td>10−3−1</td>
</tr>
<tr>
<td>10−3−4. DEGREE−DISTANCE ANCHOR DEFINITION</td>
<td>10−3−1</td>
</tr>
</tbody>
</table>

### Section 4. Planning

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10−4−1. TRACK/ANCHOR PROPOSALS</td>
<td>10−4−1</td>
</tr>
<tr>
<td>10−4−2. COORDINATION</td>
<td>10−4−1</td>
</tr>
<tr>
<td>10−4−3. CRITERIA FOR ESTABLISHMENT</td>
<td>10−4−1</td>
</tr>
<tr>
<td>10−4−4. APPROVAL NOTIFICATION</td>
<td>10−4−2</td>
</tr>
<tr>
<td>10−4−5. PUBLICATION IN FLIP</td>
<td>10−4−2</td>
</tr>
<tr>
<td>10−4−6. MILITARY REGIONAL REPRESENTATIVE RESPONSIBILITIES</td>
<td>10−4−3</td>
</tr>
<tr>
<td>10−4−7. NIMA RESPONSIBILITIES</td>
<td>10−4−3</td>
</tr>
<tr>
<td>10−4−8. EFFECTIVE DATE</td>
<td>10−4−3</td>
</tr>
<tr>
<td>10−4−9. REVISIONS TO TRACKS/ANCHORS</td>
<td>10−4−3</td>
</tr>
</tbody>
</table>

### Section 5. Operations

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10−5−1. PROVISIONS FOR CONDUCTING AERIAL REFUELING</td>
<td>10−5−1</td>
</tr>
<tr>
<td>10−5−2. USER REQUIREMENTS</td>
<td>10−5−1</td>
</tr>
<tr>
<td>10−5−3. MARSA APPLICABILITY FOR AERIAL REFUELING</td>
<td>10−5−2</td>
</tr>
<tr>
<td>10−5−4. CRITERIA FOR SCHEDULING</td>
<td>10−5−2</td>
</tr>
<tr>
<td>10−5−5. SCHEDULING RESPONSIBILITIES</td>
<td>10−5−3</td>
</tr>
<tr>
<td>10−5−6. FLIGHT PLAN REQUIREMENTS</td>
<td>10−5−4</td>
</tr>
<tr>
<td>10−5−7. TANKER AIRCRAFT/FORMATION COMMANDER RESPONSIBILITIES</td>
<td>10−5−4</td>
</tr>
<tr>
<td>10−5−8. RECEIVER AIRCRAFT RESPONSIBILITIES</td>
<td>10−5−5</td>
</tr>
<tr>
<td>10−5−9. ATC CLEARANCE</td>
<td>10−5−5</td>
</tr>
<tr>
<td>10−5−10. RADAR VECTOR ASSISTANCE</td>
<td>10−5−5</td>
</tr>
<tr>
<td>10−5−11. ATC FACILITY RESPONSIBILITIES</td>
<td>10−5−5</td>
</tr>
<tr>
<td>10−5−12. COMMUNICATIONS FAILURE</td>
<td>10−5−6</td>
</tr>
</tbody>
</table>

### Section 6. Special Refueling Requirements

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10−6−1. PROVISIONS FOR SPECIAL TRACKS/ANCHORS</td>
<td>10−6−1</td>
</tr>
<tr>
<td>10−6−2. RESPONSIBILITY OF REQUESTING UNIT</td>
<td>10−6−1</td>
</tr>
<tr>
<td>10−6−3. OPERATIONS WITHIN AN ALTRV</td>
<td>10−6−1</td>
</tr>
<tr>
<td>10−6−4. OPERATIONS OUTSIDE AN ALTRV</td>
<td>10−6−1</td>
</tr>
<tr>
<td>10−6−5. IN−FLIGHT REQUESTS</td>
<td>10−6−1</td>
</tr>
<tr>
<td>10−6−6. SPECIAL EXERCISES</td>
<td>10−6−2</td>
</tr>
<tr>
<td>10−6−7. ISSUE NOTAM</td>
<td>10−6−2</td>
</tr>
<tr>
<td>10−6−8. VFR HELICOPTER REFUELING OPERATIONS</td>
<td>10−6−2</td>
</tr>
<tr>
<td>10−6−9. VFR REFUELING TRACK ESTABLISHMENT</td>
<td>10−6−2</td>
</tr>
<tr>
<td>10−6−10. REFUELING TRACK DEFINITION</td>
<td>10−6−2</td>
</tr>
<tr>
<td>10−6−11. OPERATING PROCEDURES</td>
<td>10−6−3</td>
</tr>
<tr>
<td>10−6−12. FLIGHT PLAN REQUIREMENTS</td>
<td>10−6−3</td>
</tr>
<tr>
<td>10−6−13. WEATHER MINIMUMS</td>
<td>10−6−3</td>
</tr>
<tr>
<td>10−6−14. ADHERENCE TO REFUELING TRACK</td>
<td>10−6−3</td>
</tr>
<tr>
<td>10−6−15. FAA COORDINATION</td>
<td>10−6−3</td>
</tr>
<tr>
<td>10−6−16. PUBLICATION/SCHEDULING</td>
<td>10−6−3</td>
</tr>
</tbody>
</table>
# Chapter 11. Military Training Routes (MTR)

## Section 1. General

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11–1–1. PURPOSE</td>
<td>11–1–1</td>
</tr>
<tr>
<td>11–1–2. POLICY</td>
<td>11–1–1</td>
</tr>
<tr>
<td>11–1–3. DEVIATIONS</td>
<td>11–1–1</td>
</tr>
<tr>
<td>11–1–4. PUBLICATION</td>
<td>11–1–1</td>
</tr>
</tbody>
</table>

## Section 2. MTR Route Designation Criteria

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11–2–1. LIMITATIONS</td>
<td>11–2–1</td>
</tr>
<tr>
<td>11–2–2. ROUTE IDENTIFICATION</td>
<td>11–2–1</td>
</tr>
</tbody>
</table>

## Section 3. Publicity

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11–3–1. INFORMATION TO THE PUBLIC</td>
<td>11–3–1</td>
</tr>
</tbody>
</table>

## Section 4. IR Route Definition

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11–4–1. ROUTE WIDTH</td>
<td>11–4–1</td>
</tr>
<tr>
<td>11–4–2. ROUTE ALIGNMENT</td>
<td>11–4–1</td>
</tr>
<tr>
<td>11–4–3. ALTITUDES</td>
<td>11–4–1</td>
</tr>
<tr>
<td>11–4–4. RE–ENTRY SEGMENTS</td>
<td>11–4–2</td>
</tr>
<tr>
<td>11–4–5. ALTERNATE ENTRY, EXIT, AND END POINTS</td>
<td>11–4–2</td>
</tr>
<tr>
<td>11–4–6. ROUTE REPORTING POINTS</td>
<td>11–4–2</td>
</tr>
<tr>
<td>11–4–7. SPECIAL OPERATING PROCEDURES</td>
<td>11–4–2</td>
</tr>
<tr>
<td>11–4–8. LOW ALTITUDE AIR–TO–AIR TRAINING (LOWAT)</td>
<td>11–4–2</td>
</tr>
</tbody>
</table>

## Section 5. IR Coordination

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11–5–1. ESTABLISHING OR REVISING ROUTES</td>
<td>11–5–1</td>
</tr>
<tr>
<td>11–5–2. PUBLICATION</td>
<td>11–5–2</td>
</tr>
<tr>
<td>11–5–3. ROUTE REVIEW</td>
<td>11–5–8</td>
</tr>
<tr>
<td>11–5–4. EFFECTIVE DATE</td>
<td>11–5–8</td>
</tr>
</tbody>
</table>

## Section 6. IR Route Use

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11–6–1. SCHEDULING</td>
<td>11–6–1</td>
</tr>
<tr>
<td>11–6–2. LETTERS OF AGREEMENT– IR</td>
<td>11–6–1</td>
</tr>
<tr>
<td>11–6–3. TIE–IN FLIGHT SERVICE STATION</td>
<td>11–6–1</td>
</tr>
<tr>
<td>11–6–4. ADVISORY AND OPERATIONAL STATUS MESSAGES</td>
<td>11–6–1</td>
</tr>
<tr>
<td>11–6–5. FLIGHT PLAN REQUIREMENTS</td>
<td>11–6–1</td>
</tr>
<tr>
<td>11–6–6. IR USE DENIAL</td>
<td>11–6–3</td>
</tr>
<tr>
<td>11–6–7. ROUTE ADHERENCE</td>
<td>11–6–3</td>
</tr>
<tr>
<td>11–6–8. SPEED AUTHORIZATION</td>
<td>11–6–3</td>
</tr>
<tr>
<td>11–6–9. ENTRY/EXIT PROCEDURES</td>
<td>11–6–3</td>
</tr>
<tr>
<td>11–6–10. COMMUNICATION FAILURE</td>
<td>11–6–3</td>
</tr>
<tr>
<td>11–6–11. LOST COMMUNICATIONS TRANSPONDER OPERATIONS</td>
<td>11–6–3</td>
</tr>
<tr>
<td>11–6–12. SEPARATION OF PARTICIPATING AIRCRAFT</td>
<td>11–6–3</td>
</tr>
</tbody>
</table>
## Section 7. VR Route Definition

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11−7−1. ROUTE WIDTH</td>
<td>11−7−1</td>
</tr>
<tr>
<td>11−7−2. ROUTE ALIGNMENT</td>
<td>11−7−1</td>
</tr>
<tr>
<td>11−7−3. ALTITUDES</td>
<td>11−7−1</td>
</tr>
<tr>
<td>11−7−4. ROUTE ENTRY AND EXIT POINTS</td>
<td>11−7−1</td>
</tr>
<tr>
<td>11−7−5. ALTERNATE ENTRY/EXIT/END POINTS</td>
<td>11−7−1</td>
</tr>
<tr>
<td>11−7−6. SPECIAL OPERATING PROCEDURES</td>
<td>11−7−1</td>
</tr>
</tbody>
</table>

## Section 8. VR Coordination

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11−8−1. ESTABLISHING OR REVISING ROUTES</td>
<td>11−8−1</td>
</tr>
<tr>
<td>11−8−2. PUBLICATION</td>
<td>11−8−1</td>
</tr>
<tr>
<td>11−8−3. ROUTE REVIEW</td>
<td>11−8−2</td>
</tr>
<tr>
<td>11−8−4. EFFECTIVE DATE</td>
<td>11−8−2</td>
</tr>
</tbody>
</table>

## Section 9. VR Route Use

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11−9−1. SCHEDULING</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−2. COMPLIANCE</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−3. TIE–IN FLIGHT SERVICE STATION</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−4. MONITOR 255.4 MHZ</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−5. FLIGHT PLAN REQUIREMENTS</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−6. ROUTE ADHERENCE</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−7. SPEED AUTHORIZATION</td>
<td>11−9−1</td>
</tr>
<tr>
<td>11−9−8. WEATHER MINIMUMS</td>
<td>11−9−2</td>
</tr>
<tr>
<td>11−9−9. TRANSPONDER PROCEDURES</td>
<td>11−9−2</td>
</tr>
</tbody>
</table>

## Chapter 12. Special Military Flights and Operations

### Section 1. Night Watch

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−1−1. APPLICATIONS</td>
<td>12−1−1</td>
</tr>
<tr>
<td>12−1−2. OPERATIONS</td>
<td>12−1−1</td>
</tr>
<tr>
<td>12−1−3. CLASSIFICATION</td>
<td>12−1−1</td>
</tr>
</tbody>
</table>

### Section 2. USSTRATCOM Attack Command and Control System (SCACS) Aircraft Operations

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−2−1. SCACS AIRCRAFT</td>
<td>12−2−1</td>
</tr>
<tr>
<td>12−2−2. LAUNCHING OF POST ATTACK COMMAND AND CONTROL SYSTEM (PACC) AIRCRAFT</td>
<td>12−2−1</td>
</tr>
<tr>
<td>12−2−3. OPERATIONS ON AN ALTRV</td>
<td>12−2−1</td>
</tr>
<tr>
<td>12−2−4. CLASSIFICATION</td>
<td>12−2−1</td>
</tr>
<tr>
<td>12−2−5. SCACS LAUNCH SCHEDULE</td>
<td>12−2−1</td>
</tr>
</tbody>
</table>

### Section 3. Other USSTRATCOM Coded Flights

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−3−1. BUST OUT</td>
<td>12−3−1</td>
</tr>
<tr>
<td>12−3−2. BUGGY RIDE</td>
<td>12−3−1</td>
</tr>
<tr>
<td>12−3−3. RADAR IDENTIFICATION OF USSTRATCOM EMERGENCY WAR ORDER (EWO) FLIGHTS</td>
<td>12−3−1</td>
</tr>
</tbody>
</table>
### Section 4. Nuclear Accidents/Sampling

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−4−1. “FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS</td>
<td>12−4−1</td>
</tr>
<tr>
<td>12−4−2. NUCLEAR WEAPON ACCIDENTS (“BROKEN ARROW”)</td>
<td>12−4−1</td>
</tr>
<tr>
<td>12−4−3. ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION</td>
<td>12−4−1</td>
</tr>
</tbody>
</table>

### Section 5. Navy Coded Flights

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−5−1. NAVY “ECHO ITEM” MISSIONS</td>
<td>12−5−1</td>
</tr>
<tr>
<td>12−5−2. SCOPELIGHT EAST/WEST FLIGHTS</td>
<td>12−5−1</td>
</tr>
</tbody>
</table>

### Section 6. Air Defense Radar Evaluation

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−6−1. AIR DEFENSE RADAR EVALUATION</td>
<td>12−6−1</td>
</tr>
</tbody>
</table>

### Section 7. Special Air Mission/Scout

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−7−1. APPLICATIONS</td>
<td>12−7−1</td>
</tr>
<tr>
<td>12−7−2. OPERATIONS</td>
<td>12−7−1</td>
</tr>
</tbody>
</table>

### Section 8. Cruise Missile Operations

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−8−1. PURPOSE</td>
<td>12−8−1</td>
</tr>
<tr>
<td>12−8−2. POLICY</td>
<td>12−8−1</td>
</tr>
<tr>
<td>12−8−3. OPERATIONAL CONDITIONS</td>
<td>12−8−1</td>
</tr>
<tr>
<td>12−8−4. ROUTE DESIGNATION (CRITERIA) AND OPERATING PROCEDURES</td>
<td>12−8−1</td>
</tr>
<tr>
<td>12−8−5. PUBLICATION</td>
<td>12−8−1</td>
</tr>
<tr>
<td>12−8−6. EFFECTIVE DATE</td>
<td>12−8−1</td>
</tr>
</tbody>
</table>

### Section 9. Remotely Operated Aircraft (ROA)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−9−1. OPERATION</td>
<td>12−9−1</td>
</tr>
<tr>
<td>12−9−2. PROCEDURES</td>
<td>12−9−1</td>
</tr>
</tbody>
</table>

### Section 10. USAF Undergraduate Flying Training (UFT)/Pilot Instructor Training (PIT)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−10−1. DEFINITIONS</td>
<td>12−10−1</td>
</tr>
<tr>
<td>12−10−2. KEY OPERATIONAL CONSTRAINTS</td>
<td>12−10−1</td>
</tr>
<tr>
<td>12−10−3. RADAR SERVICE REQUIREMENTS</td>
<td>12−10−1</td>
</tr>
<tr>
<td>12−10−4. MERGING TARGET VS STANDARD IFR SEPARATION</td>
<td>12−10−1</td>
</tr>
<tr>
<td>12−10−5. AIRSPACE REQUIREMENTS</td>
<td>12−10−1</td>
</tr>
<tr>
<td>12−10−6. MTR REQUIREMENTS</td>
<td>12−10−2</td>
</tr>
<tr>
<td>12−10−7. COMMUNICATION REQUIREMENTS</td>
<td>12−10−2</td>
</tr>
<tr>
<td>12−10−8. SCHEDULING</td>
<td>12−10−2</td>
</tr>
<tr>
<td>12−10−9. STEREOTYPE ROUTING/FLIGHT PLANS</td>
<td>12−10−2</td>
</tr>
<tr>
<td>12−10−10. LETTERS OF AGREEMENT (LOA)</td>
<td>12−10−2</td>
</tr>
<tr>
<td>12−10−11. AUTHORIZATIONS</td>
<td>12−10−3</td>
</tr>
</tbody>
</table>

### Section 11. Space Shuttle Support Operations

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12−11−1. PURPOSE</td>
<td>12−11−1</td>
</tr>
<tr>
<td>12−11−2. POLICY</td>
<td>12−11−1</td>
</tr>
<tr>
<td>12−11−3. BACKGROUND</td>
<td>12−11−1</td>
</tr>
<tr>
<td>12−11−4. ROUTINE LAUNCH/RECOVERY NOTIFICATION</td>
<td>12−11−1</td>
</tr>
<tr>
<td>12−11−5. CLASSIFIED LAUNCH/RECOVERY NOTIFICATION</td>
<td>12−11−1</td>
</tr>
</tbody>
</table>
Section 12. Formation Flight

12−12−1. PURPOSE ................................................................. 12−12−1
12−12−2. POLICY ................................................................. 12−12−1
12−12−3. FORMATIONS ......................................................... 12−12−1
12−12−4. FORMATION DEPARTURE ....................................... 12−12−1
12−12−5. CELL FORMATION .................................................. 12−12−1
12−12−6. NONSTANDARD FORMATION TACTICS .................. 12−12−1
12−12−7. CELL SEPARATION STANDARDS ............................ 12−12−2
12−12−8. NONSTANDARD FORMATION NOTIFICATION AND APPROVAL .......................... 12−12−2
12−12−9. AIR REFUELING FORMATION ................................. 12−12−3

Section 13. Special Air Mission “INFO”

12−13−1. APPLICATIONS ......................................................... 12−13−1
12−13−2. OPERATIONS ........................................................... 12−13−1

Chapter 13. Military Radar Unit Duties, Responsibilities, and Procedures

Section 1. General

13−1−1. MILITARY RADAR UNIT (MRU)/AIRBORNE RADAR UNIT (ARU) ........................................ 13−1−1
13−1−2. AIRBORNE RADAR UNIT (ARU) ................................... 13−1−1
13−1−3. TRANSFER OF RESPONSIBILITY .................................. 13−1−1
13−1−4. AIRBORNE WARNING AND CONTROL SYSTEM (AWACS) ................................................. 13−1−1
13−1−5. FAA RESPONSIBILITY .................................................. 13−1−1
13−1−6. ATC FACILITIES RESPONSIBILITY ............................... 13−1−2
13−1−7. RELEASE OF AIRSPACE ............................................ 13−1−2
13−1−8. DELEGATION OF CONTROL AUTHORITY .................. 13−1−2
13−1−9. MILITARY RESPONSIBILITY ........................................ 13−1−2
13−1−10. ADDITIONAL AWACS RESPONSIBILITIES ............... 13−1−2
13−1−11. SEPARATION BETWEEN PARTICIPATING AND NONPARTICIPATING AIRCRAFT ......................... 13−1−3

Section 2. Intercept Training Activities

13−2−1. AREA OF OPERATION .................................................. 13−2−1
13−2−2. RADAR SURVEILLANCE ............................................. 13−2−1

Section 3. FAA/Military Joint Evaluations

13−3−1. PURPOSE ................................................................. 13−3−1
13−3−2. SCOPE OF EVALUATION ............................................. 13−3−1
13−3−3. ADVANCE COORDINATION ....................................... 13−3−1
13−3−4. OBJECTIVES ............................................................. 13−3−1
13−3−5. BASIC EVALUATION TEAM ....................................... 13−3−1
13−3−6. “TRUSTED AGENTS” .................................................. 13−3−1
13−3−7. OUT−BRIEFING .......................................................... 13−3−1
13−3−8. PREPARE JOINT REPORT ........................................... 13−3−1
Chapter 14. Military Operations (MILOPS) Network

Section 1. Military Operations (MILOPS)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>14–1–1. PURPOSE</td>
<td>14–1–1</td>
</tr>
<tr>
<td>14–1–2. POLICY</td>
<td>14–1–1</td>
</tr>
<tr>
<td>14–1–3. SPECIAL USE AIRSPACE MANAGEMENT SYSTEM (SAMS)</td>
<td>14–1–1</td>
</tr>
<tr>
<td>14–1–4. RESPONSIBILITIES AND PROCEDURES</td>
<td>14–1–1</td>
</tr>
<tr>
<td>14–1–5. REGIONAL AIR TRAFFIC DIVISION MANAGER RESPONSIBILITIES</td>
<td>14–1–2</td>
</tr>
<tr>
<td>14–1–6. MILOPS SITE FACILITY MANAGER RESPONSIBILITIES</td>
<td>14–1–2</td>
</tr>
<tr>
<td>14–1–7. FACILITY MILOPS FOCAL RESPONSIBILITIES</td>
<td>14–1–3</td>
</tr>
<tr>
<td>14–1–8. SAMS OPERATOR RESPONSIBILITIES</td>
<td>14–1–3</td>
</tr>
</tbody>
</table>

Appendices

Appendix 1. The White House—Executive Order 11161 as amended by Executive Order 11382 relating to Certain Relationships between the Department of Defense and the Federal Aviation Administration A1–1

Appendix 2. Memorandum of Agreement between Department of Transportation, Federal Aviation Administration, and the U.S. Army—the U.S. Navy—the U.S. Air Force A2–1

Appendix 3. Memorandum of Understanding between Air Education and Training Command and the Federal Aviation Administration concerning Interagency Liaison A3–1

Appendix 4. Memorandum of Understanding between Air Combat Command and the Federal Aviation Administration concerning Interagency Liaison A4–1

Appendix 5. Memorandum of Understanding between the Domestic Air Interdiction Coordination Center and the Federal Aviation Administration concerning Interagency Liaison A5–1

Appendix 6. Memorandum of Understanding between the Department of Defense and the Federal Aviation Administration concerning the Joint Operational use of the Military IFF System and the Civil Air Traffic Control Radar Beacon System (ATCRBS) A6–1

Appendix 7. Memorandum of Understanding between the Federal Aviation Administration and Department of Defense A7–1

Appendix 8. Memorandum of Agreement between United States Air Force and the Federal Aviation Administration concerning the Discrete Beacon Code Assignments to USAF Aircraft operating above FL 600 A8–1

Appendix 9. Memorandum of Understanding between United States Atlantic Command, United States Atlantic Fleet, and the Federal Aviation Administration concerning Interagency Liaison A9–1

Appendix 10. Memorandum of Understanding between U.S. Naval Pacific Fleet and the Federal Aviation Administration concerning Interagency Liaison A10–1

Appendix 11. Memorandum of Agreement between National Aeronautics and Space Administration and Department of Transportation, Federal Aviation Administration A11–1

Appendix 12. Memorandum of Understanding between the North American Aerospace Defense Command and the Federal Aviation Administration A12–1

Appendix 13. Memorandum of Understanding between PACAF and the FAA A13–1

Appendix 14. Headquarters First Air Force and Federal Aviation Administration Memorandum of Agreement A14–1

Appendix 15. Memorandum of Understanding—Atlantic Minimum Communications Crossings A15–1

Appendix 16. Memorandum of Understanding (MOU) Between the Federal Aviation Administration (FAA) and North American Aerospace Defense Command (NORAD) on Intercept Procedures A16–1

Appendix 17. DOT/FAA/Federal Communications Commission (FCC) SCATANA Plan A17–1

Appendix 18. Speed Authorization Granted to DOD A18–1
Chapter 1. Services and Responsibilities

Section 1. Introduction

1–1–1. PURPOSE
This order specifies procedures for air traffic control planning, coordination, and services provided during defense activities and special military operations.

1–1–2. DISTRIBUTION
This order is distributed to selected offices in Washington headquarters, regional offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, all air traffic field facilities, international aviation field offices, flight inspection field offices, interested aviation public, and DOD activities.

1–1–3. CANCELLATIONS

1–1–4. EXPLANATION OF CHANGES AND PUBLICATION DATES
Changes/orders are published as needed. Procedural inquiries should be directed to FAA headquarters, Air Traffic Planning and Procedures Program, ATP–1, in accordance with paragraph 1–2–5, Order Changes.

1–1–5. EFFECTIVE DATE
This order is effective February 19, 2004.
Section 2. Application

1–2–1. RESPONSIBILITIES

a. Special military activities shall be provided services in accordance with the policy, criteria, and procedures in this order.

b. Supplemental procedures may be developed and, unless otherwise agreed to, implemented on an effective date after providing at least 40 days pre–implementation action after distribution of approved supplements.

1–2–2. FAA/MILITARY MEMORANDUM OF UNDERSTANDING, AGREEMENT, EXECUTIVE ORDER

Where deemed appropriate, any FAA/Military Memorandum of Understanding, Agreement and/or Executive Order which has national application will be included in this order.

1–2–3. WORD MEANINGS

As used in this order, except when context requires otherwise:

a. Shall, followed by a verb or the use of an appropriate action verb in the imperative sense, means a procedure is mandatory.

b. Should, followed by a verb, means a procedure is recommended.

c. May and need not, followed by a verb, mean a procedure is optional.

d. Will, followed by a verb, indicates futurity not a requirement for application of a procedure.

e. Words importing the singular include the plural.

f. Words importing the plural include the singular.

g. Aircraft means airframe, crew members, or both.

h. Altitude means altitude mean sea level, flight level, or both.

i. Time, when used in the context of a clock reading, is the hour in Coordinated Universal Time (UTC) or the local equivalent, as appropriate, and the minutes. Change to the next minute is made at the minute plus 30–second point, except for time checks which are given to the nearest quarter minute.

j. Miles means nautical miles.

1–2–4. NOTES

Statements of fact of a prefatory or explanatory nature and relating to the use of procedural material have been identified and worded as “Notes.”

1–2–5. ORDER CHANGES

a. Recommendations for procedural changes.

1. FAA. Facilities shall forward recommended changes to the respective regional office for review. The regional office will review the recommendation to determine if it merits further consideration. The regional office shall reject the proposal or forward it to FAA headquarters for further processing.

2. Military Service. Military units shall forward recommended changes through their respective chain of command for review. Military commands will review the recommendation, and if it merits further consideration, forward it to military headquarters. Military headquarters shall reject the proposal or forward copies of proposed order changes/additions to FAA headquarters for further processing.

b. Processing Changes. FAA headquarters will:

1. Consolidate all proposed changes and effect coordination with the appropriate military service(s) headquarters prior to circulation to FAA and military facilities for comments/recommendations.

2. After receipt of comments/recommendations, coordinate the final disposition with the military services prior to publication.

3. Compile and publish changes.

c. Interim Changes (Directive/GENOT/Notice).

1. Either the military services or the FAA may issue urgent interim procedures prior to publication in this order.

2. Prior to the implementation of urgent interim procedures, coordination shall be effected between the military services and FAA headquarters.
3. Copies of the message outlining the interim procedures/changes shall be transmitted to all military services and/or FAA headquarters.

4. Interim changes will be published in the next scheduled change to the order.

d. Page Markings. Revised, reprinted, or additional pages will be marked as follows:

1. Each revised or additional page will show the change number and effective date of the change.

2. Bold bars in the margin of the text will mark the location of substantive procedural, operational, or policy changes; i.e., when material which affects the performance of duty is added, revised, or deleted.

3. A reprinted page not requiring change will be reproduced in its original format with no change to the date or the change number.

1–2–6. MILITARY PROCEDURES IDENTIFICATION

A service abbreviation, USAF for U.S. Air Force, USA for U.S. Army, USMC for U.S. Marine Corps, and USN for U.S. Navy, denotes that the procedure immediately following the abbreviation only applies to the designated service.

1–2–7. REQUIREMENTS REVIEW

In the national interest and in consonance with Section 40101, Title 49 United States Code, the FAA and the military services will endeavor to develop common policy, procedures, and criteria for the conduct of military operations. To assist in this endeavor, the FAA will annually convene a working group consisting of representatives from the military services and FAA to review military requirements, procedures, and criteria for military operations.

a. FAA, ATP–1, shall:

1. Be responsible for the supervision and control of the program.

2. Serve as the central point for all correspondence.

3. Develop tentative agenda items and effect coordination with the military services.

4. Forward a completed agenda to each military service, prior to convening a workshop, to permit thorough study and familiarization.

5. Provide FAA headquarters/regional representation at the workshop.

b. The military service shall:

1. Forward comments, recommendations, and suggestions to FAA, ATP–1.

2. Forward proposed workshop agenda items to FAA, ATP–1.

3. Provide military representation at the workshop.
## Section 3. Terms of Reference

### 1–3–1. ABBREVIATIONS

As used in this order, the abbreviations set forth below shall have the meanings indicated.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>Air Combat Command</td>
</tr>
<tr>
<td>ACM</td>
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</tr>
<tr>
<td>ACT</td>
<td>Air Combat Tactics</td>
</tr>
<tr>
<td>AD</td>
<td>Air Defense</td>
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<td>ADCF</td>
<td>Air Defense Control Facility</td>
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<td>ADIZ</td>
<td>Air Defense Identification Zone</td>
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<td>ADO</td>
<td>Air Defense Liaison Officer</td>
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<tr>
<td>ADMIS (number)</td>
<td>Aircraft Departing at (number of minutes/seconds) Intervals</td>
</tr>
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</tr>
<tr>
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</tr>
<tr>
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<td>Airfile</td>
</tr>
<tr>
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<td>FAA Authorization For Interceptor Operations</td>
</tr>
<tr>
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</tr>
<tr>
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<td>Aeronautical Information Manual</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
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</tr>
<tr>
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</tr>
<tr>
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<td>Altitude Reservation Approval</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>ANG</td>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
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<td>Approval Request</td>
</tr>
<tr>
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</tr>
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<td>Meaning</td>
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<td>Interval Between Cells in Stream Type Formation (normally expressed in minutes)</td>
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<td>Remotely Operated Aircraft</td>
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<td>ROMES</td>
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<td>Runway Supervisory Unit</td>
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<td>RTB</td>
<td>Return To Base</td>
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<td>Reference Your Message</td>
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<td>Sector Operations Control Center</td>
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<td>SODAR</td>
<td>Simultaneous Opposite Direction Aerial Refueling</td>
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<td>True Airspeed</td>
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<td>Terrain Following Radar</td>
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<td>Takeoff</td>
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<td>Tanker</td>
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<td>UPT</td>
<td>Undergraduate Pilot Training</td>
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<td>United States Air Force</td>
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<td>United States Marine Corps</td>
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<tr>
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<td>United States Navy</td>
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<td>USNS</td>
<td>United States Notice to Airman System</td>
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<td>USPACOM</td>
<td>U.S. Pacific Command.</td>
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## 1-3-2. DEFINITIONS

### A–DEFINITIONS

**Active Air Defense Mission.** One or more aircraft, which in the interest of national security or flight safety, are employed for the purpose of recognition and determination of the intentions of an airborne object.

**Air Combat Maneuvers (ACM).** One or a combination of basic ACT flight maneuvers calculated to provide an offensive tactical advantage over another aircraft.

**Air Combat Tactics (ACT).** Flight involving basic flight maneuvers, air combat maneuvers, or defensive combat maneuvers, singly or in combination.

**Air Defense Control Facility (ADCF).** A military radar unit (ROCC/SOCC/AWACS) primarily used for air defense, including air–sovereignty and counter–drug operations. ADCFs are the only MRUs authorized to direct interceptors.

**NOTE–** Specifically designated military units, when identified, may provide augmentation for NORAD and function as ADCFs.

**Air Defense Emergency.** A military emergency condition declared by a designated authority. This condition exists when an attack upon the continental United States, Alaska, Canada, or U.S. installations in Greenland by hostile aircraft or missiles is considered probable, is imminent, or is taking place. (Refer to the AIM).

**Air Defense Identification Zone (ADIZ).** The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

- **a.** Domestic Air Defense Identification Zone. An ADIZ within the United States along an international boundary of the United States.
- **b.** Coastal Air Defense Identification Zone. An ADIZ over the coastal waters of the United States.
- **c.** Distant Early Warning Identification Zone (DEWIZ). An ADIZ over the coastal waters of the State of Alaska. ADIZ locations and operating and flight plan requirements for civil aircraft operations are specified in 14 CFR Part 99. (Refer to the AIM.)

**Air Refueling Control Point (ARCP).** The geographical point over which the receiver arrives in the observation/refueling position with respect to the assigned tanker.

**Air Refueling Initial Point (ARIP).** The geographical point at which the receiver aircraft enters the refueling track/anchor, initiates radio contact with the tanker, and begins maneuver to rendezvous.

**Air Route Traffic Control Center (ARTCC).** A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and work load permit, certain advisory/assistance services may be provided to VFR aircraft.

**Air Sovereignty Test (AST).** An aircraft on a NOPAR flight plan or ALTRV that is designed to test the detection, identification, and reporting functions of the air defense forces (ADCF and interceptor/fighter units).

**Air Traffic Clearance (Clearance).** An authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace.

**Air Traffic Control (ATC).** A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

**Air Traffic Control Service (Control).** (See Air Traffic Control.)
Airborne Radar Unit (ARU). An airborne radar unit used as an extension of a military radar unit during planned exercises and daily training missions.

Airborne Warning and Control System (AWACS). An airborne military radar unit engaged in radar surveillance and/or control of aircraft for the purpose of training, exercise, air defense, and counter–drug operations.

Aircraft Movement Information Service (AMIS). Service provided by an air route traffic control center, established by the Federal Aviation Administration, to provide for the acquisition, processing, and dissemination of aircraft movement information for use by the air defense facilities, whether or not such air defense facilities are associated with an Air Defense Identification Zone (ADIZ). Such information pertains to friendly aircraft and airborne objects which are or will be operating in the air defense facility(ies) area(s).

Alaskan NORAD Region (ANR). (See NORAD Region).

Alert Area. Special use airspace wherein a high volume of pilot training activities or an unusual type of aerial activity is conducted, neither of which is hazardous to aircraft. Nonparticipating pilots are advised to be particularly alert when flying in these areas. All activities shall be conducted in accordance with applicable sections of Title 14 CFR, without waiver.

Alert Force Evaluation (AFE). A higher headquarters evaluation of a unit’s active air and scramble capability. (A 72-hour notice to the appropriate ARTCC is required.)

Alternate Entry Track. A track along which en route descent is made to an intermediate point on an MTR.

Alternate Penetration Fix. The fix from which the MTR Alternate Entry Track begins. This fix shall be described by reference to a ground–based navigational aid.

Alternate Route (AR). A preplanned departure track designed to allow receivers to depart in one direction and tanker support to depart in another direction from the same airport with the intent to rendezvous for scheduled air refueling.

Altitude Reservation (ALTRV). Airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. ALTRVs are approved by the appropriate air traffic facility or the Central Altitude Reservation Function (CARF).

Amber Warning. A term that postures (prepares and/or positions) aircraft prior to being launched for survival. It may precede a flush order.

Anchor Area. A defined area encompassing both a racetrack shape aerial refueling track and its protected airspace.

Anchor Point. A designated reference point upon which an anchor refueling track is oriented.

Associated Tracks. MTR Alternate Entry, Primary Entry, Climb–out, and Re–entry tracks.

ATC Assigned Airspace (ATCAA). Airspace of defined vertical/lateral limits, assigned by ATC, for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic.

AVANA. (ALTRV APVL void for aircraft not airborne by (time)) used by ATC to advise an aircraft that the ALTRV is automatically canceled at a specified time.

B–DEFINITIONS

Basic Flight Maneuvers (BFM). The maneuvers in which ACT pilots must be skilled in order to effectively employ weapons systems in air combat maneuvers or defensive combat maneuvers.

Bent. Equipment indicated inoperative or unserviceable.

Big Photo. The general call for aircraft performing EA.

Branch Route (BR). A track of an ALTRV that is defined from the breakaway point from a common route to the next fix or the final destination.

Burner. (USAF) Fly at maximum power.
C–DEFINITIONS

Canadian Altitude Reservation Unit (CARU). A unit established by the Ministry of Transport of Canada responsible for the processing of altitude reservation requests in Canadian airspace.

Canadian NORAD Region (CANR). (See NORAD Region).

Cardinal Altitudes or Flight Levels. “Odd” or “even” thousand–foot altitude or flight levels; e.g., 5,000, 6,000, FL 250, FL 260, FL 270.

Cat Track. Aircraft Movement Information Service provided by an air route traffic control center on all instrument flight rules flight plan aircraft classified as NORAD special interest flights, and those flights specified in paragraph 5–4–3, Special Interest Flights, via voice reporting over interphone circuits in lieu of the ROCC/SOCC teletypewriter network.

Cell Formation. A nonstandard formation of two or more aircraft with the same intended route of flight, maintaining station keeping operations by visual/electronic means.

Central Altitude Reservation Function (CARF). A function of the Air Traffic Control System Command Center (ATCSCC), established to conduct the volume of coordination, planning, and approval of special user requirements under the ALTRV concept.

Chief, Aerial Reconnaissance Coordination, All Hurricanes (CARCAH). The liaison between the 53 WRS (call sign “TEAL”/WX RECON) aircraft and either the National Hurricane Center or the National Centers for Environmental Prediction.

Climb–out Fix. The point in space where en route operation is resumed after climb–out from an MTR. This fix shall be described by reference to a ground–based navigational aid.

Climb–out Track. An MTR Associated Track beginning at the route Exit Point and permitting a climbing departure from the Exit Point to the Climb–out Fix.

Common Route (CR). The receivers planned common route in an ALTRV from point of departure to destination excluding branch route or other join–up tracks.

Continental United States NORAD Region (CONR). (See NORAD Region).

Controlled Airspace. An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

NOTE–
Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace.

Controlled Firing Area (CFA). Special use airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground.

Correlation Area. The airspace over a specific geographical area in which NORAD, PACAF, or PIAD Region Operations Control Centers have the responsibility for air defense.

Correlation Fix. A fix used for flight plan correlation.

Correlation Line. A reference line established by the NORAD, PACAF, or PIAD Region/Sector Commander from which penetration time–over for a flight is computed for the purpose of flight plan correlation.

D–DEFINITIONS

DD–175/DD–1801. A (domestic/international) military flight plan.

Data Link (DOLLY). A ground–to–air communications system which transmits information via digital coded pulses.

Defense Area. Airspace of the U.S. other than airspace designated as an ADIZ within which the ready control of aircraft is required in the interest of national security during an Air Defense Emergency or Defense Emergency.

Defense Emergency. A condition declared by the Commander of a United States unified or specified command (other than CINCNORAD), or by higher authority, confirming an overt attack of any type upon the United States or a major attack on U.S. forces overseas or on allied forces in any theater of operation.
Defense Visual Flight Rules (DVFR). Rules applicable to flights within an ADIZ conducted under the visual flight rules in 14 CFR Part 91. (See Air Defense Identification Zone.) (Refer to 14 CFR Part 99.)

Defensive Combat Maneuvers (DCM). One or a combination of basic ACT flight maneuvers calculated to provide a defensive position of advantage over another aircraft with offensive intent.

Diversion Airport. An airport outside major metropolitan areas or likely target complexes.

Due Regard. A phase of flight wherein a State operated aircraft assumes responsibility to separate its aircraft from all other aircraft. DOD operators must comply with DOD’s regulations concerning “due regard.”

E–DEFINITIONS

Egress Point. The geographical point at which the refueling track terminates.

Electronic Attack (EA). That subdivision of electronic warfare involving the use of electromagnetic, directed energy or antiradiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability. EA includes:

a. Actions taken to prevent or reduce an enemy’s effective use of the electromagnetic spectrum, such as jamming and electromagnetic deception.

b. Employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency, weapons, particle beams), or antiradiation weapons.

End Exercise Point (EEP). The point at which an aircraft is no longer classified as a faker. Ground target, bomb release line (BRL), or final neutralization in the strike route portion of the mission as appropriate.

Entry Point. A point which denotes the beginning of a particular route of flight; i.e., MTR.

European Central Altitude Reservation Facility (EUCARF). A USAF facility established for the purpose of processing altitude reservations within its area of responsibility.

Exercise Flush. The phraseology used for testing flush operations. NORAD has a requirement to practice these procedures. Actual flush procedures are classified.

Exercise Route. The route of flight to be flown by strike force aircraft from departure to point of recovery.

Exit Point. A point which denotes the end of a particular route of flight; i.e., MTR, air refueling track, etc.

F–DEFINITIONS

FAA Authorization for Interceptor Operations (AFIO). An authority used for the movement of interceptors under NORAD operational jurisdiction while on an active air defense mission when it is determined by competent military authority that operations within the NAS would significantly derogate the mission.

Faker. A strike force aircraft simulating a hostile during an air defense exercise while in the strike route portion of the mission; i.e., IP/HHCL to ground target BRL/EEP.

Faker Monitor. Military personnel responsible for monitoring the progress and providing safety to faker aircraft in accordance with safe intercept criteria, beginning at the IP/HHCL and terminating at the BRL/EEP or at the point of final neutralization.

Fleet Area Control and Surveillance Facility (FACSFAC). A U.S. Navy fixed ground facility which manages offshore and inland operating areas including warning areas, restricted areas, and other assigned airspace.

Flight Level (FL). A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level 250 represents a barometric altimeter indication of 25,000 feet; flight level 255, an indication of 25,500 feet.

Flight Plan. Specified information relating to the intended flight of an aircraft that is filed with an AFSS/FSS or an ATC facility. (Refer to the AIM.)

Flush. A term that launches military aircraft in a minimum time.

Formation Flight. More than one aircraft which, by prior arrangement between the pilots, operate as a
single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control and during join up and breakaway.

a. A standard formation is one in which a proximity of no more than 1 mile laterally or longitudinally and within 100 feet vertically from the flight leader is maintained by each aircraft.

b. Nonstandard formations are those operating under any of the following conditions:

1. When the flight leader has requested and ATC has approved other than standard formation dimensions.

2. When operating within an authorized ALTRV or under the provisions of a letter of agreement.

3. When the operations are conducted in airspace specifically designated for a special activity. (Refer to 14 CFR Part 91.)

**G–DEFINITIONS**

Ground Target. Destruct objective of a faker aircraft.

**H–DEFINITIONS**

Hand-off Point (HOP). The point with which an aircraft’s position is correlated when transferring target identity during a radar hand-off. When using nonradar procedures, the HOP is the time/fix/altitude where control responsibility is transferred unless otherwise specified.

Hawaii Air Defense Sector (HADS). A geographical subdivision of the PIADR.

High Seas. That area of the international waters commencing 12 nautical miles from the land mass.

**I–DEFINITIONS**

IFR Military Training Routes (IR). Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training in both IFR and VFR weather conditions at airspeeds in excess of 250 KIAS below 10,000 feet MSL.

Initial Point/H–Hour Control Line (IPH HCL). That point at which the faker route portion of the exercise begins.

Intercept. The encounter with or tracking of an airborne object, normally as a result of a flight path preplanned to effect such encounter in the shortest practicable time.

Interceptor. An airplane engaged for the sole purpose of performing an intercept.

Interceptor Training Flight. The flight of one or more aircraft for the development and maintenance of proficiency for both air and ground components related to the intercept mission.

**J–DEFINITIONS**

Jamming. Electronic or mechanical interference which may disrupt the display of aircraft on radar or the transmission/reception of radio communications/navigation.

**L–DEFINITIONS**

Large Scale EA Mission. EA performed by seven or more aircraft working as a unit.

Long Range Defense Team (LRDT). A composite air defense force normally consisting of an AWACS, tanker, and fighter/interceptor aircraft.

Low Altitude Air to Air Training (LOWAT). Maneuvers within MTRs for the purpose of simulating an aerial attack and defensive response.

Low Altitude Tactical Navigation (LATN) Area. A large geographic area where random low altitude operations are conducted at airspeeds below 250 KIAS.

**M–DEFINITIONS**

Maneuver Area. A designated area within an MTR where aircraft may deviate within the corridor to perform operational requirements.

Military Authority Assumes Responsibility for Separation of Aircraft (MARSA). A condition whereby the military services involved assume responsibility for separation between participating military aircraft in the ATC system. It is used only for required IFR operations which are specified in letters of agreement or other appropriate FAA or military documents.
Military Operations Area (MOA). Special use airspace of defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain nonhazardous military activities from IFR traffic in controlled airspace and to identify for VFR traffic where these activities are conducted.

Military Radar Unit (MRU). Any fixed or mobile ground-based unit under the operational jurisdiction of the military services excluding commissioned ATC facilities. This includes the AWACS aircraft when it meets the requirements of this order. MRUs will provide services in accordance with the letter of agreement with the appropriate ATC facilities; however, MRUs shall not provide ATC services.

Military Training Route (MTR). Routes developed for use by the military for the purpose of conducting low-altitude, high-speed training.

Minimum Communications (MINCOMM). A procedure whereby air traffic control information is exchanged between aircrews and air traffic facilities in accordance with a prearranged memorandum of understanding (MOU).

Minimum En Route IFR Altitude (MEA). The lowest published altitude between radio fixes which assures acceptable navigational signal coverage and meets obstacle clearance requirements between those fixes. The MEA prescribed for an airway or segment thereof, area navigation low or high route, or other direct route applies to the entire width of the airway, segment, or route between the radio fixes defining the airway, segment, or route.

Minimum Navigational Performance Standards (MNPS). A specified set of minimum navigational performance standards which aircraft must meet in order to operate in MNPS-designated airspace. This is to ensure safe operation of aircraft through reduced separation standards resulting from the improvement in accuracy of enhanced navigational equipment.

Missile Attack Warning. The phraseology used for actual flush operations.

Mode. The letter or number assigned to a specific pulse spacing of radio signals transmitted or received by ground interrogator or airborne transponder components of the Air Traffic Control Radar Beacon System (ATCRBS). Mode A (military Mode 3) and Mode C (altitude reporting) are used in air traffic control. (Refer to the AIM.)

Moving Reservation. ALTRVs which encompass en route activities and advance coincident with the mission progress.

N–DEFINITIONS

NORAD Command and Control Identifiers (CCIs). CCIs are the method by which the NORAD air defense system reports command and control structure within the regions. CCIs include command location and tactical control source. The tactical control source is the facility/facilities providing tactical control.

NORAD Region. A geographical subdivision of the area for which NORAD is responsible.

NORAD Sector. A geographical subdivision of a NORAD region.

Notice to Airmen (NOTAM). A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, procedure, or hazard) of the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

a. NOTAM (D). A NOTAM given (in addition to local dissemination) distant dissemination via data communications equipment beyond the area of responsibility of the Flight Service Station. These NOTAMs are stored and repeated hourly until canceled.

b. NOTAM (L). A NOTAM given local dissemination by voice, data communication equipment, and a wide variety of means such as: teleautograph, teleprinter, facsimile reproduction, hot line, teletypewriter, telegraph, and telephone to satisfy local user requirements.

c. FDC NOTAM. A NOTAM, regulatory in nature, transmitted by the National Flight Data Center (NFDC) and given all-circuit dissemination.

Nuclear Weapon Accident (Broken Arrow). An unexpected event involving nuclear weapons or nuclear components which results in any of the following:
a. Accidental or unauthorized launching, firing, or use by U.S. force or U.S. supported Allied forces, or a nuclear capable weapon(s) system which could create the risk of outbreak of war.

b. Nuclear detonation.

c. Nonnuclear detonation/burning of a nuclear weapon.

d. Radioactive contamination.

e. Seizure, theft, or loss of a nuclear weapon or nuclear component including jettisoning.

f. Public hazard, actual or implied.

O–DEFINITIONS

Oceanic Route. Routes generally depicted on position reporting charts to facilitate flight planning and position reporting while conducting flight in ICAO oceanic control areas.

Offset Point. A point in space relative to a target’s path toward which an interceptor is vectored or from which the final attack heading or turn is made.

Offshore/Control Airspace Area. That portion of airspace between the U.S. 12–mile limit and the oceanic CTA/FIR boundary within which air traffic control is exercised. These areas are established to provide air traffic control services. Offshore/Control Airspace Areas may be classified as either Class A airspace or Class E airspace.

Open Skies. A treaty based on complete territorial openness, addressing the use of unarmed observation aircraft with sensors, and annual quotas of observation flights which each State Party is willing to accept, and entitled to conduct. Open Skies aircraft shall take priority over any regular air traffic.

P–DEFINITIONS

PACAF Region. A geographical subdivision of the area for which PACAF is responsible.


Pacific Island Air Defense Region (PIADR). A geographical subdivision of the USPACOM area for which the Air Component Commander is responsible for air defense.

Pacific Military Altitude Reservation Facility (PACMARF). A USAF facility established for the purpose of coordinating altitude reservations within its area of responsibility.

Partial Route (PR). A track of an ALTRV that begins at the international boundary for aircraft inbound from an international airport to the CONUS or a track that is connected to a DD–175/DD–1801 (domestic flight plan).

Participating Aircraft. Only those aircraft engaged in, and a part of, the activity being conducted.

Penetrating Traffic. Traffic whose protected airspace, as defined in pertinent regulations, infringes upon another authority’s area of jurisdiction or responsibility when measured from the center line of the route of flight or the edge of a stationary ALTRV boundary.

Photo Reconnaissance (PHR). Military activity that requires locating individual photo targets and navigating to the targets at a preplanned angle and altitude. The activity normally requires a lateral route width of 16 NM and an altitude range of 1,500 feet to 10,000 feet AGL.

Positive Target Control (PTC). The operation of faker aircraft transponders on discrete Mode 3/A codes to satisfy Air Defense faker monitor and ATC requirements.

Prefiled Flight Plan. A flight plan on file in an FAA facility to provide for point–to–point operations of a recurring nature or quick reaction deployment missions. This type flight plan will normally include permanent type data, such as route, with a special mission designation when required.

Primary Entry Track. A track along which en route descent is made to the entry point of an MTR.

Primary Penetration Fix. The fix from which the Primary Entry Track of an MTR begins. This fix shall be described by reference to a ground–based navigational aid.

Prohibited Area. Airspace designated under 14 CFR Part 73 within which no person may operate an aircraft without the permission of the using agency.

R–DEFINITIONS

Radar Advisory. The provision of advice and information based on radar observations.

Radar Contact.

a. Used to inform an aircraft that it is identified on the radar display and radar flight following will
be provided until radar identification is terminated. Radar service may also be provided within the limits of necessity and capability. When a pilot is informed of “radar contact” by ATC, the pilot automatically discontinues reporting over compulsory reporting points.

b. The term an air traffic controller uses to inform the transferring controller that the target being transferred is identified on the radar display. (See Radar Service.) (Refer to the AIM.)

**Radar Flight-Following.** The observation of the progress of radar identified aircraft, whose primary navigation is being provided by the pilot, wherein the controller retains and correlates the aircraft identity within the appropriate target or target symbol displayed on the radar scope. (See Radar Contact, Radar Service.) (Refer to the AIM.)

**Radar Hand-off.** That action whereby radar identification of an aircraft is made known from one controller to another.

**Radar Identification.** The process of ascertaining that an observed radar target is the radar return from a particular aircraft. (See Radar Contact, Radar Service.)

**Radar Service.** A term which encompasses one or more of the following services based on the use of radar which can be provided by a controller to a radar identified aircraft.

a. **Radar Separation.** Radar spacing of aircraft in accordance with established minima.

b. **Radar Navigational Guidance.** Vectoring aircraft to provide course guidance.

c. **Radar Monitoring.** The radar flight-following of aircraft, whose primary navigation is being performed by the pilot, to observe and note deviations from its authorized flight path, airway, or route. When being applied specifically to radar monitoring of instrument approaches; i.e., with precision approach radar (PAR) or radar monitoring of simultaneous ILS approaches, it includes advice and instructions whenever an aircraft nears or exceeds the prescribed PAR safety limit or simultaneous ILS no transgression zone.

**Radar Traffic Advisories.** Advisories issued to alert pilots to known or observed radar traffic which may affect the intended route of flight of their aircraft. (See Traffic Advisories.)

**Recovery.** Penetration and approach of aircraft.

**Re-entry Track.** An associated track commencing from a defined point on an MTR from which low-level re-entry can be achieved for the purpose of executing additional runs through segments of an MTR.

**Refueling Level.** A block of consecutive altitudes/flight levels from ARIP to exit point within which entry into the refueling track, maneuvering to rendezvous, and transfer of fuel will be accomplished.

**Regional Operations Control Center (ROCC).** A NORAD facility tasked to manage air defense operations in a designated area within the NORAD area of operations. (Alaskan ROCC also functions as a NORAD sector operations control center–SOCC.)

**Remotely Operated Aircraft (ROA).** A pilotless aircraft including drones which is remotely controlled by an external source either airborne or on the surface.

**Rendezvous.** A planned arrival of two or more aircraft over a predetermined point terminating in a visual contact prior to effecting a refueling hookup or conducting other activities requiring proximate operations.

**Reporting Point.** A geographical location in relation to which the position of an aircraft is reported. (Refer to the AIM.)

**Restricted Area.** Special use airspace designated under 14 CFR Part 73 within which the flight of aircraft, while not wholly prohibited, is subject to restriction.

**S-DEFINITIONS**

**Scramble.** Departure of an aircraft training for or for the purpose of participating in an air defense mission.

**Scramble Order.** A command and authorization for flight requiring time, of not more than 5 minutes, to become airborne.

**Search and Rescue (SAR).** A service which seeks missing aircraft and assists those found to be in need of assistance. It is a cooperative effort using the facilities and services of available federal, state, and local agencies. The U.S. Coast Guard is responsible for coordination of search and rescue for the Maritime Region, and the U.S. Air Force is
responsible for search and rescue for the Inland Region. Information pertinent to search and rescue should be passed through an air traffic facility or be transmitted directly to the Rescue Coordination Center by telephone.

**Sector Operations Control Center (SOCC).** A military radar unit which has the capability to regulate air defense operations in a designated area. This is a subordinate unit of a ROCC.

**Select Code.** That code displayed when the ground interrogator and the airborne transponder are operating on the same mode and code simultaneously.

**Separation Minima.** The minimum longitudinal, lateral, or vertical distances by which aircraft are spaced through the application of air traffic control procedures.

**Slow Route (SR).** Low-level route(s) at or below 1,500 AGL and at 250 KIAS or less. SRs are published in the Flight Information Publication (FLIP) AP/1B.

**Special Handling.** Clear the aircraft according to pilot request as soon as practicable. Do not ask the pilot to deviate from the planned action except to preclude an emergency situation.

**Special Penetration Air Defense Exercise (SPADE).** A no-notice exercise in which an aircraft on a NOPAR flight plan or ALTRV tests the detection, identification, and reporting functions of the air defense forces (ADCFs and interceptor/flight units).

**Special Use Airspace.** Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature, and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of special use airspace:

- **a. Alert Area.**
- **b. Controlled Firing Area.**
- **c. Military Operations Area.**
- **d. Prohibited Area.**
- **e. Restricted Area.**
- **f. Warning Area.**

**Stationary Reservations.** Altitude reservations which encompass activities in a fixed area. Stationary reservations may include activities such as special tests of weapons systems or equipment, certain U.S. Navy carrier, fleet, and anti-submarine operations, rocket, missile and RPV operations, and certain aerial refueling, or similar operations.

**Stereo-route.** Pre-coordinated route of flight which may be stored in the ARTCC/CERAP computer.

**Stop Stream/Burst/Buzzer.** Used by ATC to request a pilot to suspend electronic attack activity.

**Stream Formation.** Two or more aircraft or cells of aircraft operating on the same route with more than one (1) minute but not more than 15 minutes longitudinal spacing between aircraft (or cells), laterally contained within the route width to be protected, and utilizing normally 3,000 consecutive feet of altitude.

**Strike Force Aircraft.** All offensive attack and support forces participating in an exercise.

**Strike Route.** That portion of the exercise routes from IP/HHCL to ground target, bomb release line, end of exercise point, as appropriate.

**Synoptic Surveillance.** Weather reconnaissance mission flown to provide mid- and/or upper-tropospheric sounding data on the periphery of tropical systems in data-sparse areas. Synoptic flights better define the upper atmosphere and aid in the prediction of tropical cyclone motion and intensity.

**T-DEFINITIONS**

**Tactical Phase.** That portion of a mission which includes the positioning of aircraft and the execution of an actual or practice flight against hostile aircraft or targets.

**Tanker Orbit Point.** A geographical location along the planned refueling track where the tanker may hold prior to effecting rendezvous with the receiver aircraft.
Terrain Following (TF). The flight of a military aircraft maintaining a constant AGL altitude above the terrain or the highest obstruction. The altitude of the aircraft will constantly change with the varying terrain and/or obstruction.

Theater Air Control System (TACS). TACS is an Air Force system composed of various ground and airborne command and control elements that plan and direct combat operations through centralized command, decentralized execution. TACS air defense radar elements include the Control Reporting Center (CRC), the Control and Reporting Element (CRE), and AWACS.

Traffic Advisories. Advisories to alert pilots to other known or observed air traffic which may be in such proximity to the position or intended route of flight of their aircraft to warrant their attention. Such advisories may be based on:

a. Visual observation;

b. Observation of radar identified and nonidentified aircraft targets on an ATC radar display; or

c. Verbal reports from pilots or other facilities.

U–DEFINITIONS

Uncontrolled Airspace. Class G airspace.

United States. The States, the District of Columbia, Puerto Rico, and the possessions, including the territorial waters and the airspace of these areas.

U.S. Pacific Command (USPACOM). A unified command whose area of responsibility extends from the west coast of Americas to the east coast of Africa and from the Arctic to the Antarctic.

V–DEFINITIONS

VFR Military Training Routes (VR). Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training under VFR at airspeeds in excess of 250 KIAS below 10,000 feet MSL.

Voice–Page Hot Line Communications. Point-to-point landline communications, terminating in monitor speakers, so that direct voice access is available without the need for dial–up action.

W–DEFINITIONS

Warning Area. A warning area is airspace of defined dimensions, extending from 3 nautical miles outward from the coast of the United States, that contains activity that may be hazardous to nonparticipating aircraft. The purpose of such warning areas is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

Weather Reconnaissance (WX RECON). Missions flown by the 53 WRS under the TEAL call sign for the purpose of gathering meteorological data from specific millibar levels in both tropical and winter weather systems.

Whiskey Alert. A term used over a voice–page hot line to alert a controlling agency that a spill out situation is imminent.
Section 4. ATC Services by the Military

1–4–1. WHERE SERVICE MAY BE PROVIDED
The military may provide airport traffic control service at airports not served by an FAA or private civil tower.

1–4–2. APPROACH CONTROL AUTHORITY
The regional AT division may delegate air traffic control authority, at a location not served by an FAA facility, to a military ATC facility certified to provide air traffic services.

1–4–3. FREQUENCY REQUIREMENTS
Approach control authority shall not be delegated to the military until the facility is equipped to transmit and receive on all frequencies necessary to control all categories of IFR traffic, (including civil), operating on a regular basis in the terminal area.

1–4–4. LETTERS OF AGREEMENT (LOA)
LOAs shall be consummated between the military approach control facility and appropriate FAA facilities in accordance with established practice.

1–4–5. TOWER EN ROUTE CONTROL SERVICE
Tower en route control procedures, stated in an LOA, may be implemented between an FAA–operated terminal area traffic control facility and a military–operated approach control facility if an FAA Air Traffic Representative (ATREP) or Air Traffic Control Specialist designated by the regional AT division has certified that military personnel involved are qualified. This tower en route control service includes traffic to and from an airport which is served by a non–FAA facility if all en route control is exercised by a designated FAA approach control facility or a military facility that has been properly certified.

1–4–6. EVALUATION BY THE AIR TRAFFIC DIVISION
At locations not served by an ATREP, qualified AT division personnel/designated representative shall evaluate annually the military approach control facility, military tower if located on a joint–use airport, and military ground controlled approach (GCA) unit if associated with a nonradar approach control tower. The intent of the evaluation is to determine that:

a. Equipment performance and staffing are adequate for the service being provided.

b. Personnel qualifications and performance meet acceptable standards.

c. Procedures utilized are consistent with LOAs between the ARTCC/CERAP and the appropriate local military authority and local memorandum of agreement between the FAA and appropriate military authority.

d. All deficiencies which may affect flight safety shall be reported to the cognizant military authority for timely corrective action.

1–4–7. SUSPENDING APPROACH CONTROL AUTHORITY
The ATREP, (or AT division personnel/designated representative), shall notify the appropriate military authority of any deficiency in the requirements stated in paragraph 1–4–6, Evaluation by the Air Traffic Division, for corrective action. He/she shall suspend approach control authority, if necessary, in the interest of safety.

a. In the absence of an ATREP, the center concerned shall suspend approach control authority if this is in the interest of safety. When this action has been taken, inform the ATREP, his/her alternate, or the AT division during office hours.

b. The commanding officer (or designated representative) of the affected military installation shall be notified prior to the time suspension action is taken and informed of the reason therefore.

1–4–8. USE OF MILITARY AUTHORITY ASSUMES RESPONSIBILITY FOR SEPARATION OF AIRCRAFT (MARSA)
The application of MARSA is a military service prerogative and will not be invoked by individual units or pilots except as follows:

a. Military service commands authorizing MARSA shall be responsible for its implementation
and terms of use. When military operations warrant an LOA and MARSA will be applied, the authority to invoke MARSA shall be contained in the LOA. It must be noted that an LOA will not be required in all cases involving MARSA.

b. ATC facilities do not invoke or deny MARSA. Their sole responsibility concerning the use of MARSA is to provide separation between military aircraft engaged in MARSA operations and other nonparticipating IFR aircraft.

c. DOD shall ensure that military pilots requesting special use airspace (SUA)/ATC assigned airspace (ATCAA) have coordinated with the scheduling agency, obtained approval for entry, and are familiar with appropriate MARSA procedures. ATC is not responsible for determining which military aircraft are authorized to enter SUA/ATCAA.

1–4–9. RELEASE OF AIRCRAFT TO GROUND CONTROL APPROACH (GCA) UNITS

When a GCA unit is located on an airport which is provided IFR service by an FAA facility, details concerning the release of arriving and/or departing aircraft to the unit shall be contained in an LOA. Include the following items:

a. Details of the procedures, GCA patterns, release points, and areas to be used.

b. The maximum number of aircraft which may be released to GCA at any one time.

c. Specific instructions concerning a missed approach, loss of communications, and loss of radar.

d. A statement that the GCA unit shall be responsible for maintaining radar separation in accordance with FAA Order 7110.65, Air Traffic Control.

e. Detailed instructions concerning the exchange of information between GCA and approach control.

1–4–10. CONTROL OF FLIGHTS IN PATTERN

At locations where the FAA facility normally vectors arrivals to base leg or final approach, permit the GCA unit to control sufficient flights throughout the pattern to maintain proficiency.

1–4–11. EXCHANGE OF INFORMATION

At airports served by an FAA tower and a military GCA unit, an LOA shall be formulated containing the following items:

a. Before conducting actual or practice GCA approaches, GCA personnel shall coordinate with the tower to obtain approval of the runway of intended landing.

b. If GCA personnel wish to subsequently change runways, they shall coordinate with and obtain approval from the tower for this change.

c. GCA personnel shall include the number of the runway of intended landing when the base leg report is relayed to the tower.

d. If a GCA approach is to be conducted straight-in, the number of the runway of intended landing shall be relayed to the tower when the final controller assumes control of the aircraft, but in no case later than the time the aircraft is 6 miles from the end of the runway.

e. Procedures for opposite direction approaches.

I. An LOA defining inter- and intra-facility coordination shall establish cut off points; such as, distances or fixes for authorizing the approach.
1−5−1. ASSIGNMENTS

A Regional Air Traffic Division ATREP may be assigned to each military approach control facility. Assignments shall be based on operational need rather than the amount of civil traffic being handled by the facility.

1−5−2. RESPONSIBILITIES

The ATREP shall:

a. Serve as liaison officer between the military, the FAA, and where applicable, civil users.

b. Participate in the resolution of local air traffic control problems between military and civil users of the terminal area so that both are afforded the maximum service possible.

c. Conduct frequent liaison with FAA, civil, and military personnel to determine adequacy of ATC services rendered.

d. Serve as technical advisor to the military in all phases of air traffic control in order to improve air traffic control services.

e. Evaluate the amount of airspace required for air traffic control in terminal areas, and coordinate approval of airport traffic patterns.

f. Participate in appropriate military meetings in which the FAA has an interest.

g. Encourage lecture and training programs for base pilots and civil air user groups.

h. Suggest changes to improve the air traffic control facility training program.

i. Administer control tower operator examinations and issue appropriate FAA certificates and ratings.

j. Coordinate letters of agreement between the military facilities and other ATC facilities.

k. Notify the manager, National Flight Data Center, Washington, D.C., with an information copy to the regional Air Traffic division of changes to radar services provided by the military facility for publication in the Airport/Facility Directory and other aviation information publications. These data shall pertain only to those services and airports that are authorized for general civil use.

l. Inform the next higher level of authority (who in turn will coordinate the matter with appropriate military authority) whenever an agreeable solution cannot be reached at the local level on controversial matters and interpretative issues.

m. Participate in the near midair collision program (NMAC).

n. Provide technical advice and assistance on matters concerning airspace allocation and use, Federal Aviation Regulations, and air traffic control services provided by the FAA.

o. Assist in resolving conflicts between the military and civil users regarding Special Use Airspace (SUA) and ATC assigned airspace (ATCAA) (where the terminal facility controls that airspace) so as to achieve maximum compatibility of user requirements and to enhance operational safety.

p. Encourage and participate when possible in briefings for military personnel on FAA air traffic control procedures and NAS requirements in terms of their applicability to the safe, orderly, and effective conduct of military operational flying within the common National Airspace System.

1−5−3. FAMILIARIZATION FLIGHTS

The ATREP, during the first year of duty, should complete one familiarization flight every 6 months in the unit’s primary aircraft and, thereafter, one flight per year. When unit resources are available and unit mission is not degraded, the ATREP should attempt to complete a flight every 6 months in each unit−equipped aircraft.

NOTE−
It is mutually beneficial for controllers and pilots to familiarize themselves with the others’ duties and responsibilities. It is highly encouraged that familiarization trips be approved. FAA controller familiarization trips on military aircraft are governed by FAA Order 3120.29, Familiarization Training Program.
1–5–4. REQUIRED ABSENCE
When required to be absent from his/her assigned location for 5 or more consecutive days, the ATREP shall:

a. Notify the appropriate military authority and ARTCC, and furnish the name and location of the designated alternate.

b. Notify the designated alternate, and apprise him/her of matters requiring ATREP services.

1–5–5. ALTERNATE AIR TRAFFIC REPRESENTATIVE
In order to insure continuing FAA representation, an appropriately qualified alternate ATREP shall be designated to substitute for the assigned specialist during periods of extended absence.

1–5–6. DUTIES OF ALTERNATE
The alternate shall:

a. Perform the ATREP duties to the extent possible.

b. Visit the concerned military installation at least once during each extended period of the ATREP’s absence or at intervals prescribed by the region.

1–5–7. COORDINATION
The ATREP and his/her designated alternate shall coordinate to assure familiarity with current operating procedures. This coordination may consist of, but is not limited to, an exchange of correspondence, telephone calls, and personal visits.

1–5–8. LEAVE PERIODS
Regions shall insure that an ATREP and his/her designated alternate are not approved leave for the same period.
Section 6. FAA Military Liaison Officers’ Responsibilities

1–6–1. ACTIONS

Liaison officers shall take the following actions in connection with proposed military exercises:

a. Encourage mission planning officers to include assigned airspace requirements in the information disseminated with the request for exercise approval.

b. Recommend the use of planning conferences to mission planning officers for the resolution of problems when it is evident that the exercise requirements will generate sufficient traffic to create untenable air traffic or airspace user situations.

c. Provide early notification and information to the affected ARTCCs and CARF on any exercises which are classified under subparagraph b.
Section 7. Miscellaneous

1–7–1. ASSIGNMENT OF MILITARY TOWER OFFICERS
At the request of the USAF, a tower officer may be assigned to the cab of an FAA tower located on a joint-use airport or military base if space other than at the operating desk is available. Under these circumstances:

a. Telephone or intercom equipment which is necessary by virtue of the assignment of a military officer to the tower shall be independent of the tower system and shall be reimbursable.

b. Install no radio equipment at this position. The release of a frequency and transmitting capability to the tower officer shall be at the discretion of the area manager, and only in the case of an emergency. No traffic control instructions shall be formulated or transmitted by the officer, nor shall the office interfere in any manner with the performance of air traffic control duties by FAA personnel.

c. The officer assigned shall be on duty only during military flight activities. In many cases, this will be only during the hours from sunrise to sunset.

d. The number of personnel so assigned shall be kept at a minimum. In most cases, one officer should suffice to provide the necessary services.

1–7–2. SUPERVISOR OF FLYING (SOF)
Procedures governing the use of designated SOF inflight emergency frequencies shall be contained in a letter of agreement between the USAF and the appropriate FAA ATC facility.

a. The letter of agreement (LOA) shall specify a radio frequency to be used by the SOF during the emergency.

b. Each LOA shall contain explicit coordination procedures to be followed by the SOF prior to use of any ATC frequency including 121.5/243.0.

c. ATC shall have the capability to override the SOF discrete frequency when required for ATC purposes.

1–7–3. MILITARY AIRSPACE MANAGERS
The military services have assigned airspace managers at various levels of command who are responsible to work with the FAA and other agencies to identify, coordinate, procure, and manage airspace, and to develop and coordinate agreements/procedures to support military flight operations in meeting both peace and war–time requirements.
Chapter 2. Exercise Planning

Section 1. General

2–1–1. PURPOSE
This chapter identifies requirements, establishes policy, prescribes procedures, and sets forth criteria to be applied when planning a military exercise. The authority, responsibility, and general operating procedures are defined herein.

2–1–2. POLICY
Exercises will be planned, insofar as possible, to be conducted within the National Airspace System. Exercise planners shall coordinate with the affected ATC facilities all pertinent data relative to the mission. During initial planning with the FAA, a decision will be made to determine the capability of the FAA to provide ATC services for the entire exercise, or the extent to which services can be provided. Airspace requirements must be identified at this initial planning stage to ensure adequate processing time for airspace actions. Efforts will be made to minimize conflicts with other operations being conducted in the area.

2–1–3. PROCEDURES
ATC services to exercise aircraft shall be predicated on the following:

a. Issuance of an appropriate ATC clearance. This includes filing a flight plan for each departure. The method of filing may be determined at the local level.

b. Pilot adherence to procedures, routes, and altitudes as agreed to between military users and ARTCCs through letters of agreement (LOAs).

c. Aircraft participating in planned exercises shall be afforded ATC clearances honoring departure times with regard for safety of flight as agreed upon through LOAs.

d. Procedures for an Altitude Reservation (ALTRV) required in the conduct of an exercise are contained in Chapter 3 of this order.

2–1–4. SPECIAL USE AIRSPACE (SUA)

a. The establishment of SUA as defined in FAA Order 7400.2, Procedures for Handling Airspace Matters, for planned exercises shall be processed through the appropriate FAA regional military representative. Other airspace; i.e., ATC assigned airspace (ATCAA), Air Refueling Tracks, etc., shall be coordinated with the appropriate ARTCC.

b. Exercise airspace should be approved provided the airspace requirements will not impose an untenable burden upon the National Airspace System.

c. The appropriate military authority, when denied exercise airspace, may request the regional military representative to obtain further consideration from the FAA Regional Air Traffic Division.

d. LOAs for exercise operations in ATCAA, stereo-type flight plans, and other exercise procedures shall be coordinated with the ARTCCs concerned at least 45 days prior to the beginning of the proposed exercise.

2–1–5. MILITARY AIRSPACE PLANNING
To assist FAA and military personnel in planning and preparing for military exercises that require establishment of temporary SUA, the following listing of information items has been developed.

REFERENCE–

a. After all coordination has been completed and in sufficient time to process an airspace action, if needed, (FAA Order 7400.2), a formal proposal should be submitted to the appropriate FAA Regional Office. The proposal should include:

1. Name of exercise.

2. Location and description of temporary SUA.

3. Time of designation.

4. Controlling and using agency.
5. Complete justification for the airspace to include:
   (a) Number of aircraft involved.
   (b) Types of aircraft and missions they will perform.
   (c) The exercise concept of operation (scenario).

6. A statement explaining if the entire exercise area, as requested, is for the complete exercise period, or does the scenario allow for real-time coordination and release of a portion of the area. If a portion can be released, specify each portion providing vertical and horizontal dimensions and for what period of time.

7. Requirements for refueling tracks, location, VFR or IFR, in or below Class A airspace.

8. Commands that will participate in the exercise.

9. Requirements for FAA liaison personnel at exercise facilities and military liaison personnel at affected FAA facilities.

10. Provisions to be made for nonparticipating aircraft desiring to operate within the exercise area.
    (a) Local airport operations.
    (b) Ingress and egress routes.
    (c) Overflights.
    (d) Capability of the using agency to accept direct radio requests from pilots.

b. Four months prior to the proposed effective date, the proponent furnishes the following data:
   1. Bases to be used as staging airfields and the estimated volume of activity at each.
   2. Inactive bases to be activated and their locations.
   3. Military control facilities or navigational aids to be established where none now exists for use by participating aircraft outside of the exercise area. Information provided should include locations and frequencies.
   4. Requirements for ingress and egress areas (vector areas).

5. Requirements for routes from staging bases to include estimated volume of use.

6. Location of military air traffic facilities.

7. Requirements for military control of exercise traffic outside of the exercise area.

c. Three months prior to beginning of the exercise:
   1. Make provisions to assure that participating pilots are provided the capability of closing VFR flight plans.
   2. Provide information concerning other activities not mentioned which will require development of special operating procedures and/or FAA military agreements.

d. Forty-five (45) days prior to beginning of exercise:
   1. Provide any additional information deemed necessary by FAA or the exercise proponent.
   2. Provide copies of all established procedures and agreements for distribution to FAA and military personnel who require this information.

2–1–6. CHANGES IN REQUIREMENTS
Changes to the exercise should not be made within 45 days of the exercise unless they are absolutely essential to the safe and successful conduct of the exercise, or to reduce the amount of SUA to be designated.

2–1–7. PUBLIC NOTIFICATION
To minimize the effect of an exercise upon the public and to enhance flying safety, the military with the assistance of the FAA shall acquaint the public, to the maximum extent possible, with the location, configuration, and periods of use of the exercise areas.

2–1–8. PLANNING CONFERENCES
Initiate action to resolve problems attendant to military exercises which appear to impose an untenable burden upon the air traffic control system or other users of the airspace through the use of planning conferences, telephones, or other suitable media.
Section 2. Air Combat Command (ACC) Exercise/Operational Readiness Inspection (ORI)

2−2−1. EXERCISE/ORI

a. To the extent practical, exercises and ORIs shall be conducted using existing special use airspace (SUA), military training routes (MTR), air refueling tracks/anchors, and Airborne Warning and Control System (AWACS) orbits. The exercise/ORI project officer shall advise the appropriate ARTCC/CERAPs of the exercise/ORI objective, scenario, and execution date and shall ensure coordination is effected in sufficient time to establish arrival/departure procedures, ingress/egress of target/exercise area/air refueling tracks/anchors.

b. If alteration of existing SUA or the establishment of temporary SUA, MTRs, air refueling tracks/anchors, and/or AWACS orbits are required for an exercise or ORI, the exercise/ORI project officer shall ensure coordination is effected with the appropriate ARTCC/CERAPs in sufficient time to comply with the lead time required for development of letters of agreement and processing airspace proposals.

c. If an Altitude Reservation (ALTRV) is required for the exercise/ORI, the project officer shall ensure the above coordination is coordinated with the appropriate ARTCC/CERAPs prior to submitting the ALTRV request to the FAA Central Altitude Reservation Function (CARF).

d. ATC facilities may authorize communications out/reduced communications procedures in lieu of radio position reporting if required by military operations and prior coordination has been accomplished with affected ATC facilities.

2−2−2. NOTIFICATION OF EXERCISE/ORI

Exercise/ORI mission notification will be provided no later than 30 days prior to the departure date of the mission to the affected ARTCC/CERAPs.
Section 3. Air Mobility Command (AMC) Exercise/Operational Readiness Inspection (ORI)

2–3–1. ORI
The AMC project officer shall coordinate with the ARTCC affected by an ORI to establish arrival/departure procedures, ingress/egress of target areas and air refueling tracks/anchor areas prior to submitting the Altitude Reservation (ALTRV) to the FAA Central Altitude Reservation Function (CARF).

2–3–2. NOTIFICATION OF ORI
Exercise/ORI mission notification will be provided no later than 30 days prior to the departure date of the mission to the affected ARTCC/CERAPs.
Section 4. United States Strategic Command (USSTRATCOM) Operational Readiness Inspection (ORI)

2–4–1. ORI BOOKLETS
The USSTRATCOM will provide current ORI Altitude Reservation Flight Plan books to appropriate ARTCC/ATC facilities and Air Defense Regions/Sectors. The Central Altitude Reservation Function (CARF) will be provided with a current base code listing to be used for identifying participating units.

2–4–2. NOTIFICATION OF ORI
ORI mission notification will be provided to CARF via telephone no later than (NLT) 30 calendar days prior to the date of the mission. The Inspector General Scheduling Division (IGXP) will forward the current information NLT 15 days prior to the mission. The telephonic coordination will include:

a. Mission names (from ORI books).
b. Call signs (if they differ from the ones listed in the ORI books).
c. Initiation hour (“I” hour) – the earliest time a unit may be told of the mission timing.

2–4–3. NOTIFICATION FORMAT
CARF shall forward the ORI mission notification information to the required ARTCC/CERAP(s) no later than 30 days prior to the departure date of the mission. The ARTCC/CERAPs shall be provided the current information, as provided by IGXP, NLT 15 days prior to the mission via the AFTN network as follows:

a. Mission name.
b. Bomber call signs.
c. Tanker call signs.
d. “I” hour.
e. “ERT” hour.

2–4–4. MISSION DELAYS
ORI missions will delay in 24–hour increments.
Section 5. Air Defense Exercises

2–5–1. RADAR MONITORING OF FAKER AIRCRAFT

a. Prior coordination shall be effected between the ARTCC/CERAP and Air Defense Control Facility (ADCF) Faker Monitor to determine which facility will provide radar monitoring to faker aircraft. This includes operations in uncontrolled airspace within the ARTCC/CERAPs Flight Advisory Area and Warning Areas within the ARTCC/CERAPs radar coverage. Whenever this service cannot be provided or is terminated, the faker monitor at the appropriate ADCF shall be advised.

b. The ADCF, upon being advised by the ARTCC/CERAPs that radar monitoring service cannot be provided or is terminated, shall assume radar monitoring responsibility within the capabilities of the ADCF.

2–5–2. SEPARATION RESPONSIBILITY BETWEEN INTERCEPTOR/FAKER AIRCRAFT

The ADCF shall provide separation between interceptors and between interceptors and faker aircraft. The route or altitude of faker aircraft shall not be changed by an ADCF, except in exercise airspace, unless a clearance is obtained from the ARTCC/CERAP.

2–5–3. CODE ASSIGNMENT WITHIN NORAD AREAS

a. FAA and NORAD shall ensure strike force aircraft flight planned as faker aircraft during planned air defense exercises are assigned discrete beacon codes from subsets reserved for exclusive use by the military as specified in the Memorandum of Understanding between the Department of Defense and the Federal Aviation Administration Concerning the Joint Operational Use of the Military IFF System and the Civil Air Traffic Control Radar Beacon System, Appendix 6. Whenever possible, these codes should not be changed by ATC until the aircraft is ready for hand-off to the terminal facility for recovery.

b. If operational requirements necessitate the simultaneous use of a discrete beacon code by more than one faker aircraft, the aircraft assigned the same discrete code shall not be flight planned to be in the same or an adjacent ARTCC/CERAPs airspace at the same time.

2–5–4. STRIKE/FAKER IDENTIFICATION AND UNSAFE PROCEDURES

Aircraft identification will be effected using the discrete Mode 3/4096 code assignments referred to in paragraph 2–5–3, Code Assignment within NORAD Areas. ARTCC/CERAPs may supplement this with identification features. ADCFs may assign Mode 3 code 5000 momentarily while aircraft are within assigned airspace and located on the strike route to indicate “unsafe for intercept” conditions.
Section 6. Navy Exercises

2–6–1. AIR CAPABLE SHIP OPERATIONS

Flight Operations involving air capable ships may include cyclic operations and ALFA strikes. Launch sequence plans shall be coordinated in advance with the ARTCC/CERAPs involved with providing IFR service to the aircraft from air capable ships. Specific time requirements for advance notification should be covered in letters of agreement (LOA) between the ARTCC/CERAPs and the local Navy command.

2–6–2. FLEET READINESS EXERCISES

The Navy project officer shall coordinate with the ARTCC/CERAPs involved in the handling of aircraft operating from shore bases participating in fleet readiness exercises at least 30 days prior to the exercise.

2–6–3. CENTRAL ALTITUDE RESERVATION FUNCTION (CARF) APPROVED STATIONARY ALTRVs

Navy exercises requiring CARF altitude reservations shall be coordinated in accordance with Chapter 3.

2–6–4. FLEET ELECTRONIC WARFARE SUPPORT GROUP

The Fleet Electronic Warfare Support Group (FEWSG) project officer shall coordinate with the ARTCC/CERAPs concerned with the handling of FEWSG exercise aircraft and shall comply with the provisions of Section 7 of this chapter.

2–6–5. FAA/NAVY ATC PLANNING CONFERENCES

ATC planning conferences may be required between the Navy and the ATC facilities involved with the handling of Navy aircraft participating in an exercise. The determination on the need for an ATC planning conference may be based on the information provided to the ARTCC/CERAPs during initial coordination by the Navy project officer or as specified in LOAs between the ARTCC/CERAPs and the local Navy command.

2–6–6. AIR CAPABLE SHIP FLYOFFS

Procedures for coordination and handling of air wing flyoffs from air capable ships returning from overseas deployment shall be developed between appropriate East/West coast ARTCC/CERAPs and the appropriate Navy commands.

2–6–7. LIAISON

Procedures shall be developed to provide for liaison visits to the aircraft carrier by representative personnel from the impacted ATC facility. Carrier air wing and air operations personnel shall develop procedures to visit ATC facilities.

2–6–8. FLEET AREA CONTROL AND SURVEILLANCE FACILITIES (FACSFAC)

FACSFACs are Navy air traffic control facilities which manage offshore and inland operating areas. FACSFACs perform the following services:

a. Scheduling, coordinating, monitoring, and/or control of subsurface, surface, and airborne military units operating within and transiting between offshore areas.

b. Scheduling, coordinating, monitoring, and/or control of airborne units operating within assigned inland airspace.

c. Area containment services within assigned airspace and radar/communication coverage.

d. Air traffic control services in accordance with FAA Order 7110.65, Air Traffic Control, to military units, other government aircraft, government contract aircraft, and civilian aircraft as defined by letter of agreement with applicable FAA and military activities.

e. Assistance during search and rescue and medical evacuation.
Section 7. Electronic Attack (EA) Missions/Exercises

2−7−1. APPLICATION

The procedures contained herein pertain to the conduct of EA missions in the following areas:

a. The conterminous U.S. including the District of Columbia, plus the area extending to the outer boundaries of the coastal Air Defense Identification Zones (ADIZ) or a perimeter of 150 NM seaward from the coastal states, whichever is farthest out, except where this infringes on the territorial limits of other nations.

b. The State of Alaska including the Aleutian Islands plus the area extending to the outer boundaries of the Alaskan ADIZ.

c. The State of Hawaii comprising that area within a 300NM radius of 21−20N, 157−57W (Hickam AFB, Hawaii).

2−7−2. GENERAL

All EA activity to be employed in a mission/exercise shall be coordinated with the appropriate FAA Regional Frequency Management Office (FMO). Coordination must be effected prior to approval of the mission/exercise. The responsibility for coordination with the FAA Regional FMO rests with the military unit planning the EA activity. Coordination with FAA headquarters Spectrum Policy and Management Division will be completed through normal military command channels by the military service frequency management office. Final FAA authorization will be given in writing by FAA headquarters. (Refer to FAA Order 7610.11, Coordinating Electronic Attack Mission Requests.)

2−7−3. PARTICIPATION

At the direction of Headquarters Air Combat Command (ACC), specified units will launch aircraft at selected intervals against preplanned NORAD areas. The faker force will contain a large number of United States Strategic Command (USTRATCOM) and other supplementary aircraft equipped with varied loads of electronic warfare equipment. In addition, interceptor aircraft from air defense/air defense augmentation units may be programmed to participate.

2−7−4. COORDINATION

These exercises shall be coordinated by the military forces at conferences with affected FAA facilities. The ACC Liaison Officer (ACCLLO) and the Air Defense Liaison Officer (ADLO) shall be the principal FAA representatives at the planning conferences and shall be responsible for proper coordination between all parties concerned. The ACCLO/ADLO is the primary FAA official responsible for the coordination process for interceptor airspace. The air division airspace manager is responsible for interceptor negotiations during the coordination process. FAA facility participation at the conferences will be determined between FAA ACLO/ADLO and the region(s) concerned. Appropriate FAA Frequency Management personnel shall attend exercise planning conferences.

2−7−5. DURATION

These exercises will last from 6 to 12 hours. However, no one ARTCC/CERAP will be affected for the entire duration. The faker aircraft will operate on an altitude reservation (ALTRV) basis. Interceptor aircraft will also operate in ATC assigned airspace (ATCAA) and/or special use airspace (SUA) as coordinated.

2−7−6. ESTABLISHMENT

During the planning conference(s), the ALTRV to be flown will be developed/ designed to meet the military need in accordance with established procedures. When approving the low level segments of the ALTRV, every effort should be made to ensure adequate provisions for the normal requirements of other airspace users. Consideration should be given to traffic density, hours of operation, and other similar factors.

2−7−7. EXECUTION

In the execution of these missions, the military has agreed to the following:

a. Conduct the mission, to the extent possible, during periods of low traffic density.

b. Employ chaff in accordance with the current FAA headquarters authorization.

c. NAV-AID frequency bands and secondary radar beacon frequencies shall not be jammed.
2–7–8. EA CLEARANCE
Prior to initiating EA, and after national level DOD and FAA approvals, flight crews are required to notify the appropriate NORAD Region Operations Control Center (ROCC)/Sector Operations Control Center (SOCC) having jurisdiction over the airspace within which the EA is to be conducted. This notification shall include the EA authorization number. If unable to contact the appropriate NORAD facility directly, request the ARTCC/CERAP to pass the information to NORAD.

NOTE—ARTCC/CERAPs are the final approval authority for all EA activity.

a. An open area has been determined as described below wherein the flight crews are not required to notify NORAD of EA activity. Permission to conduct EA in this area must still be obtained in accordance with procedures as outlined above.

b. The open area is defined as:

31° 56′N/113° 00′W to 35° 00′N/113° 00′W to
37° 00′N/118° 00′W to 40° 00′N/119° 00′W to
45° 00′N/116° 15′W to 46° 00′N/100° 00′W to
44° 30′N/95° 00′W to 42° 00′N/92° 00′W to
40° 00′N/80° 00′W to 35° 45′N/81° 15′W to
33° 00′N/84° 00′W to 30° 25′N/88° 00′W to
the point of origin.

2–7–9. SUSPENSION OF EA


a. Terminal facilities shall request suspension of EA activity through the ARTCC/CERAPs.

b. ATC will use the term Stop Buzzer, Stop Stream, or Stop Burst (on guard frequencies) to require cessation of such activity. If unable to contact the aircraft involved, the affected ATC facility will contact the ROCC/SOCC by direct voice and request Stop Buzzer, Burst, or Stream; specifying the band, the duration of the request and facility identification.

c. Upon receipt of such a request, the ROCC/SOCC will take immediate action to contact the EA aircraft and direct the aircraft to stop the specified activity. The ROCC/SOCC will then confirm with the ARTCC/CERAPs that it has taken action to terminate EA activity. The affected ATC facility who directed suspension of the EA activity will authorize resumption of the activity at the earliest possible time.

2–7–10. EA ACTIVITY TABLE

EA operations may be conducted on all authorized frequencies from 0–100,000 MHz, if approved. Only activity which is conducted on the frequencies listed in the following table are of interest to FAA facilities. (See TBL 2–7–1.)
### TBL 2–7–1
**EA Frequencies Affecting FAA Facilities**

<table>
<thead>
<tr>
<th>FREQUENCY (MHZ)</th>
<th>BAND DESIGNATION</th>
<th>TYPE EA</th>
<th>FACILITIES AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.009–0.014</td>
<td>A–1</td>
<td>Electronic</td>
<td>OMEGA</td>
</tr>
<tr>
<td>0.090–0.110</td>
<td>A–1</td>
<td>Electronic</td>
<td>LORAN C</td>
</tr>
<tr>
<td>0.190–0.535</td>
<td>A–1</td>
<td>Electronic</td>
<td>Nondirectional Beacons</td>
</tr>
<tr>
<td>2.100–28.000</td>
<td>A–1</td>
<td>Electronic</td>
<td>A/G Radio &amp; Fixed Point–to–Point</td>
</tr>
<tr>
<td>74.8–75.2</td>
<td>A–1</td>
<td>Electronic</td>
<td>NAVAID (Marker Beacon)</td>
</tr>
<tr>
<td>108–118</td>
<td>A–5</td>
<td>Electronic</td>
<td>NAVAID (VOR &amp; ILS)</td>
</tr>
<tr>
<td>118–137</td>
<td>A–5 &amp; A–6</td>
<td>Electronic</td>
<td>ATC Comm; Emergency Locator Transmitters (ELT/EPIRB)</td>
</tr>
<tr>
<td>138–150.8 &amp;</td>
<td>A–7</td>
<td>Electronic</td>
<td>Fixed &amp; Mobile Communications</td>
</tr>
<tr>
<td>162–174</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>225–400</td>
<td>A–10 &amp; B–1 thru B–6</td>
<td>Electronic</td>
<td>ATC Comm; ELT/EPIRB</td>
</tr>
<tr>
<td>328.6–335.4</td>
<td>B–4</td>
<td>Electronic</td>
<td>NAVAID (Glide Slope)</td>
</tr>
<tr>
<td>406–420</td>
<td>B–7</td>
<td>Electronic</td>
<td>Fixed/Mobile Comm &amp; ELT/EPIRB</td>
</tr>
<tr>
<td>800–20000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>960–1215</td>
<td>C–10 &amp; D–1 thru D–3</td>
<td>Electronic</td>
<td>NAVAID (TACAN &amp; DME)</td>
</tr>
<tr>
<td>1030 &amp; 1090</td>
<td>D–1</td>
<td>Electronic</td>
<td>Secondary Radar Beacon</td>
</tr>
<tr>
<td>1215–1240</td>
<td>D–3</td>
<td>Electronic</td>
<td>Global Positioning System (GPS)</td>
</tr>
<tr>
<td>1240–1370</td>
<td>D–3 &amp; D–4</td>
<td>Electronic</td>
<td>Air Route Surveillance Radar (ARSR)</td>
</tr>
<tr>
<td>1435–1535</td>
<td>D–5 &amp; D–6</td>
<td>Electronic</td>
<td>Telemetry</td>
</tr>
<tr>
<td>1535–1660</td>
<td>D–6 &amp; D–7</td>
<td>Electronic</td>
<td>Satellite/Altimeters</td>
</tr>
<tr>
<td>1710–1850</td>
<td>D–8 &amp; D–9</td>
<td>Electronic</td>
<td>Low Density Microwave Link</td>
</tr>
<tr>
<td>2310–2390</td>
<td>E–4</td>
<td>Electronic</td>
<td>Telemetry</td>
</tr>
<tr>
<td>2700–2900</td>
<td>E–8 thru E–9</td>
<td>Electronic</td>
<td>Airport Surveillance Radar (ASR)</td>
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<td>2700–3000</td>
<td>E–8 thru E–10</td>
<td>Electronic</td>
<td>Weather Radar</td>
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<tr>
<td>3500–3700</td>
<td>F–6 &amp; F–7</td>
<td>Electronic</td>
<td>Airport Surveillance Radar (ASR)</td>
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<td>4200–4400</td>
<td>G–2</td>
<td>Electronic</td>
<td>Airborne Radar Altimeter</td>
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<td>5000–5250</td>
<td>G–6 &amp; G–7</td>
<td>Electronic</td>
<td>NAVAID (Microwave Landing System)</td>
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<td>5350–5470</td>
<td>G–7 &amp; G–8</td>
<td>Electronic</td>
<td>Airborne Radar</td>
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<td>5600–5650</td>
<td>G–9</td>
<td>Electronic</td>
<td>Terminal Doppler Weather Radar</td>
</tr>
<tr>
<td>7125–8400</td>
<td>H–6 thru H–10 &amp; I–1 &amp; I–2</td>
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Chapter 3. Altitude Reservation (ALTRV) Procedures

Section 1. General

3–1–1. PURPOSE

This chapter establishes policy, prescribes uniform procedures, and sets forth criteria to be applied to all phases of an ALTRV. The authority, responsibility, and general operating procedures under the ALTRV concept for Central Altitude Reservation Function (CARF) and other concerned ATC facilities are herein defined.

NOTE−
Responsibility has been accepted by the military and is clearly defined for those military personnel whose duties include the application of these procedures.

3–1–2. POLICY

An altitude reservation is authorization by the CARF or the appropriate ARTCC/CERAP under certain circumstances, “for airspace utilization under prescribed conditions.” An altitude reservation shall receive special handling from FAA facilities.

a. CARF or the appropriate ARTCC/CERAP (if the approving authority) is responsible for separation of the ALTRV mission from other ALTRVs after the aircraft have reached the first cruising altitude to a point where descent is started into the destination airport or where the ALTRV ends.

b. ALTRVs shall be classified as either moving or stationary.

1. A moving ALTRV will normally include the en route and arrival phases of flight up to and including the arrival holding pattern at which ATC provides separation between aircraft in accordance with FAA Order 7110.65, Air Traffic Control.

2. A stationary ALTRV will normally define the fixed airspace area to be occupied as well as the specific altitude(s) and time period(s) the area will be in use.

3–1–3. APPLICATION

An ALTRV shall be employed when a number of aircraft must be moved with less IFR separation between aircraft than is allowed by standard ATC criteria or when a number of aircraft must operate within prescribed altitudes, times, and/or areas.

a. In the application of ALTRV procedures, policies, and criteria, due consideration shall be given to total user requirements throughout the navigable airspace in accordance with the procedures prescribed herein.

b. ALTRVs may encompass rocket, missile, and remotely piloted vehicle (RPV) activities and other special operations.

c. An ALTRV shall not be requested if the mission can otherwise be accomplished without excessive derogation.

d. An ALTRV shall not be authorized for operations that are normally conducted in airspace expressly designated for a special activity.

e. Any aircrew which plans to air refuel in Canadian airspace is required to file an ALTRV with CARF and/or the Canadian Altitude Reservation Unit (CARU) except as noted in FLIP AP 1/B. Both tankers and receivers are required to file an ALTRV in accordance with the time requirements set forth in paragraph 3–4–2, Order of Precedence.

f. An ALTRV approval does not constitute authorization for chaff or electronic attack (EA) activities. (FAA Order 7610.11, Coordinating Electronic Attack Mission Requests.)

g. Single aircraft, which will join a tanker for refueling, will file an ALTRV to begin at the air refueling initial point (ARIP). Normally the ALTRV will be terminated after the refueling is completed.

h. Aircraft established on an approved ALTRV route and altitude shall not be changed except in the interest of safety to flight. The ARTCC/CERAP shall have the prerogative of canceling the entire ALTRV if the aircrew requests routing and/or altitude changes which are not in the approved ALTRV. Due consideration will be given to the ALTRV when deviations are required.
3–1–4. ALTERNATE REFUELING TRACKS

a. A facility shall not approve alternate refueling tracks and routes on the initial ALTRV Approval Request (APREQ), although they may be filed with the request and subsequently approved until 12 hours prior to the scheduled departure time.

b. When an alternate refueling track is approved, the primary refueling track route shall be canceled.

3–1–5. USER REQUIREMENTS

a. When approving an ALTRV, every effort should be made to ensure requested altitudes are approved and to provide adequate altitudes for the normal requirements of other airspace users. Total user requirements, traffic flow, available routes, military missions, and other operations which are using or which propose to use the ATC system must be afforded equitable consideration.

b. Special care shall be exercised when processing ALTRV requests which entail operation on a broad frontal width. Indiscriminate approval of these requests would render a considerable portion of navigable airspace unavailable to other users for extended periods of time.

3–1–6. ALTITUDE CRITERIA

a. Altitude utilization criteria must be flexible and adjusted as required. Seasonal traffic trends and revised civil and military jet inventories are factors which necessitate flexibility.

b. Due to pressure gradients, FL 180 will not normally be acceptable on an ALTRV except in oceanic airspace.

c. The normal altitude block assignments for nonstream aircraft are:

1. Two aircraft refueling, two altitudes.

2. More than two aircraft, 500 feet per aircraft.

NOTE—
Flights of six or more aircraft should consider cell formations; 30 minutes between the cells.
Section 2. Central Altitude Reservation Function (CARF) Responsibilities

3−2−1. CANADIAN AND OVERSEAS

Coordinate ALTRV requests as required for missions which depart from points within the U.S. control area/flight information region (CTA/FIR) and penetrate another country’s FIR with the appropriate international altitude reservation facilities.

**NOTE**—Do not coordinate or approve classified missions which penetrate another CTA/FIR unless authorized by DOD. See paragraph 3−9−1b.

3−2−2. CLEARANCE AUTHORITY

a. CARF is authorized to approve an ALTRV in the U.S. CTA/FIR:

1. FL 240 and above west of the 100th meridian.
2. 18,000 MSL and above east of the 100th meridian.

b. CARF is the final approval authority for any ALTRV departing U.S. airspace which traverses or penetrates airspace outside U.S. CTA/FIR.

3−2−3. ALTRV APPROVAL REQUEST (APREQ)

CARF shall:

a. Transmit all ALTRV APREQs to the appropriate ARTCC/CERAP and Canadian Altitude Reservation Unit (CARU) and list those facilities in Item G of the ALTRV APREQ per Section 9 of this chapter.

**NOTE**—This includes aircraft departing a point in the U.S. on a DD−175/1801 and beginning an ALTRV in Canadian Airspace.

b. Normally, CARF will transmit the APREQ to impacted ARTCC/CERAPs prior to issuing an approval.

c. When mission requirements or timeliness dictate, coordinate as needed by telephone, facsimile machine, or other electronic means.

3−2−4. ALTRV APPROVAL (APVL)

CARF shall be the final approval authority for any ALTRV departing a point within the U.S. CTA/FIR, except as provided for in paragraph 3−3−2, ARTCC/CERAP Approved ALTRVs. CARF shall:

a. Forward ALTRV APVLs to all concerned at least 24 hours prior to the proposed departure time, unless a shorter time is coordinated with all concerned ATC facilities. If special instructions are required concerning the delivery of the APVL to the project officer, they are to be included in the ALTRV APVL message. Forward ALTRV APVLs to the following:

1. Concerned ATC facilities.
2. International altitude reservation facilities, as appropriate.
4. Tanker support unit.
5. Other parties as requested in Item G of the ALTRV APREQ.

**NOTE**—The coordination requirement may be waived as needed to comply with Executive Order (EO) 11161 and EO 11382 or in an emergency.

d. Ensure Pacific Military Altitude Reservation Facility/European Central Altitude Reservation Facility (PACMARF/EUCARF) are addressed on the military ALTRV APREQ for any mission which departs U.S. airspace and traverses their countries’ FIRs or penetrates their traffic.

e. Advise all concerned ATC/international altitude reservation facilities and the project officer of any change to the original ALTRV APREQ prior to issuing a final ALTRV approval.

f. Process changes submitted by the project officer and ATC/international altitude reservation facilities provided they are of an operational requirement.
b. Provide the following information in Item G of the ALTRV APREQ:

1. The International Civil Aviation Organization (ICAO) location indicators of the international and domestic air traffic control facilities concerned with the mission.

2. Whenever the requested altitudes include uncontrolled airspace, include the phrase “NOTE ALTRV APVL VALID IN CONTROLLED AIRSPACE ONLY.”

c. Precede a No–Notice ALTRV APVL message with “This is a (executing command) No–Notice Mission.”

d. Process proposed changes in an ALTRV APVL:

1. At least 24 hours prior to departure.

2. With less than the time specified above, subject to CARF discretion after approval from the affected ATC facilities.

e. Process the ALTRV in accordance with the above procedures and obtain APVL from facilities which abut the U.S. CTA/FIR whenever the ALTRV is penetrating traffic.

3–2–5. NOTIFICATIONS

Disseminate ALTRV cancellations to all domestic and international air traffic control facilities concerned as soon as practicable. Forward departure information received from ATC facilities operating in a nonautomated mode.

3–2–6. AIRSPACE NOT UNDER CARF JURISDICTION

Coordinate with the appropriate facility and obtain approval for those ALTRV APREQs which involve airspace not under CARF jurisdiction.

3–2–7. RESOLUTION OF CONFLICTS BETWEEN MISSIONS

Missions with higher precedence will be afforded priority over lower class missions when resolving a conflict. CARF will coordinate with the project officer for resolution of conflicts between missions. Information pertaining to a No–Notice mission conflict shall not be divulged to other than the designated trusted agents (see paragraph 3–3–8, Trusted Agents).

3–2–8. FORMULATE ALTITUDE RESERVATION NOTICE TO AIRMEN (NOTAM)

CARF is responsible for the formulation of Altitude Reservation NOTAMs for those ALTRVs for which they are the final approval authority. For those areas outside U.S. airspace CARF will state: ADDITIONAL AREA FOR INFORMATION ONLY.

3–2–9. ACKNOWLEDGMENT OF ALTRV APREQs

When requested, acknowledge receipt of ALTRV APREQs to the originator.

3–2–10. MESSAGES CLASSIFIED AS ENCRYPT FOR TRANSMISSION ONLY (EFTO)

Handle all ALTRV messages exchanged between CARF and ATC facilities which are classified as EFTO via Defense Communication Systems. EFTO messages cannot be transmitted to international altitude reservation facilities.

3–2–11. LETTERS OF AGREEMENT

CARF is authorized to enter into letters of agreement as necessary to improve the coordination and processing of ALTRV requests provided that such agreements are not contrary to the provisions of this order. In the furtherance of this objective, CARF is authorized to enter into letters of agreement with the Canadian Ministry of Transport.
Section 3. ATC Facility Responsibilities

3−3−1. APREQ REVIEW AND COORDINATION

a. Review all ALTRV APREQs to ensure completeness, and advise CARF of any requested change to the ALTRV APREQ as soon as possible.

b. Coordinate with the approach control facility when the ALTRV will operate within airspace delegated to approach control or other ATC facilities. This coordination should include departure procedures.

c. Ensure that the flight has been approved up to the first cruising altitude requested, provided that the first altitude will be attained within the originating ATC facility’s area or the first adjacent ATC facility’s area. This coordination includes those ATC facilities to which airspace has been delegated, unless otherwise covered in a letter of agreement with CARF.

3−3−2. ARTCC/CERAP APPROVED ALTRVs

Where practical and advantageous, an ARTCC/CERAP may be the final approval authority for an ALTRV when the entire route of flight and associated protected airspace will not involve more than two ARTCC/CERAPs’ area of control jurisdiction. The ARTCC/CERAP shall:

a. Assume the ALTRV APREQ responsibilities outlined in subparagraphs 3−2−3a, c, and d.

b. Assume the ALTRV APVL responsibilities outlined in subparagraphs 3−2−4a through d.

NOTE—ARTCC/CERAPs are not authorized to approve ALTRVs whose routes of flight or protected airspace are not wholly contained within the U.S. CTA/FIR (see paragraph 3−2−1, Canadian and Overseas).

3−3−3. MISSION SEPARATION

Ensure that required separation exists, to the altitudes specified in paragraph 3−3−1, APREQ Review and Coordination, between two or more missions departing within the ARTCC/CERAP of origin.

3−3−4. DELIVERY INSTRUCTIONS

When an ARTCC/CERAP is the final approval authority, deliver all ALTRV APVLs and amendments to the designated project officer in accordance with delivery instructions contained in the ALTRV APREQ message. Comply with the security restrictions contained in the APREQ message regarding release time to military personnel, estimated time of departure (ETD), etc.

3−3−5. FLIGHT PROGRESS STRIPS

Prepare flight progress strips and other data in accordance with FAA Orders 7110.65, Air Traffic Control, and 7210.3, Facility Operation and Administration, to display the required information on mission aircraft utilizing an ALTRV.

3−3−6. NOTIFICATION

a. Forward departure times of ALTRV aircraft to the ALTRV approval authority. Departure messages shall include the departure time and identification of the following:


2. First and last aircraft of a stream formation.

3. Individual aircraft not listed in the above.

b. Forward cancellations of ALTRV aircraft and other ALTRV changes to CARF and appropriate approach control facilities. This applies to cancellations of individual aircraft within the ALTRV or the whole mission. CARF will forward the information to the appropriate ATC and international reservation facilities.

3−3−7. ISSUE ALTITUDE RESERVATION NOTAM

a. ARTCC/CERAPs are responsible for the formulation and dissemination of an altitude reservation NOTAM for ALTRVs for which they are the final approval authority.

b. Coordination shall be effected between adjacent ARTCC/CERAPs for the issuance of a joint altitude reservation NOTAM if it will permit consolidation of the altitude reservation NOTAM information prescribed above.
3–3–8. TRUSTED AGENTS
Each ARTCC/CERAP shall provide CARF a current listing of trusted agents updated annually by March 1 or as needed.

3–3–9. CHANGES TO ALTRV ROUTING AND ALTITUDE
Routing and altitude(s) of aircraft established on an approved ALTRV shall not be changed except in the interest of safety of flight or as specified below:

NOTE–
An ALTRV APVL authorizes the aircraft to climb or descend as specified. Controllers are not required to issue a climb or descent clearance for the various flight segments. They may, however, request that the pilot advise them prior to initiating an altitude change.

a. If an aircraft requests routing or altitude changes which are not in the approved ALTRV, the ARTCC/CERAP has the prerogative of canceling the ALTRV for that aircraft. Due consideration to retaining the ALTRV will be given when deviations around weather are required.

b. Short-term adjustments to altitude or course of single aircraft (or standard formation) on an ALTRV may be issued with the concurrence of the aircraft (flight) commander in order to expedite overall traffic flow as long as the controller assures return of the aircraft to the ALTRV, within their sector or within sectors with which the adjustment and return are directly coordinated.

c. If ARTCC/CERAP initiates changes to the ALTRV due to safety or other extraordinary circumstances, military authority assumes responsibility for separation of aircraft (MARSA), if applicable, is suspended and the ARTCC/CERAP assumes responsibility for separation. The ARTCC/CERAP is also responsible to return the aircraft to the ALTRV as soon as practicable.

NOTE–
Due to critical military operational requirements; e.g., timing, refueling, locations, etc., which necessitated the ALTRV, changes shall be kept to the absolute minimum required for safety.

d. Multiple cells in an ALTRV are responsible for their own separation (MARSA) from other cells within the same ALTRV from the initiation of the ALTRV until the termination or cancellation of the ALTRV.

1. Controller assigned course or altitude changes without the concurrence of the formation flight leader will void MARSA between cells.

2. The ARTCC/CERAP is responsible for returning the cell to the ALTRV as soon as practical and confirm re-establishment of MARSA between cells.
Section 4. Mission Planning

3–4–1. RESOLVING MISSION CONFLICTS

During periods other than when the provisions of the Security Control of Air Traffic and Navigational Aids (SCATANA) Plan are invoked, an order of precedence shall be applied to all requests for ALTRVs for the purpose of resolving conflicts. Airspace assigned by ATC for the conduct of interceptor activity shall be provided the same order of precedence class number as that applied to the ALTRV associated with the exercise or mission.

NOTE—
The Wartime Air Traffic Priority List for Movement of Aircraft contained in the SCATANA Plan governs the movement of aircraft for airspace user requirements during time of tension and war.

3–4–2. ORDER OF PRECEDENCE

The order of precedence contained herein is designed to facilitate the handling of airspace user requirements.

a. The organization originating an ALTRV request shall assign the appropriate order of precedence class number in accordance with the listing contained herein.

b. The FAA may, under certain emergency conditions, determine an appropriate order of precedence classification.

c. The following class numbers establish the order of precedence designed to resolve mission conflicts in connection with ALTRVs:

1. Class One—Aircraft implementing peacetime national emergency plans as well as missile activities authorized by approved and pre-coordinated procedures or letters of agreement. ALTRV APREQ should be filed as far ahead of departure/estimated time of launch as practicable.

2. Class Two—Aircraft engaged in search and rescue operations. ALTRV APREQ should be filed as far ahead of takeoff as practicable.

3. Class Three—Aircraft engaged in emergency air evacuation, hurricane operations, WX RECON or other operations involving safety of lives or property; i.e., use of airlift forces as directed by appropriate authority in support of domestic crises. ALTRV APREQ should be filed as far ahead of takeoff as practicable.

4. Class Four—Deployments at the direction of the Joint Chiefs of Staff (JCS) in support of an exercise or large scale mission and fulfilling an unforeseen requirement. The deployment should be essential to the success of the exercise or mission. ALTRV APREQ should be filed as far ahead of departure as practicable.

5. Class Five—Aircraft engaged in important peacetime service, joint or unified/specified command exercises or missions. Notification of application of this priority must be received from the appropriate military headquarters. ALTRV APREQ shall be filed at least 15 days before proposed takeoff. It may be filed less than 15 days before proposed takeoff with CARF approval.

6. Class Six—Aircraft engaged in a large scale mission directed by a major command headquarters. ALTRV APREQ shall be filed at least 10 days before proposed takeoff.

7. Class Seven—Aircraft engaged in evaluation-type operations or overseas deployment. ALTRV APREQ shall be filed at least 4 days before proposed takeoff except for ALTRVs penetrating foreign airspace which requires 6 days.

8. Class Eight—Aircraft engaged in missions directed by specified air forces or commands, aircraft engaged in other training exercises, and all other aircraft requesting ALTRVs. ALTRV APREQ shall be filed at least 4 days before proposed takeoff except for ALTRVs penetrating foreign airspace which requires 6 days.

NOTE—

1. If a mission is directed by JCS or higher, it will be indicated in Item G of the ALTRV APREQ and will carry a higher priority than missions with the same classification.

2. Any missions which will be flight planned into or through EUCARF/PACMARF area of coordination should consult the appropriate DOD regulations, for correct lead time requirements prior to submitting the associated ALTRV APREQ.
3–4–3. SPECIFY VOID TIME

Aircraft must depart within the assigned AVANA for the purpose of providing separation between altitude reservations. Normal AVANA will be 1 hour.

3–4–4. RESCHEDULING

If a mission is to be delayed beyond the AVANA time, rescheduling:

a. Will normally be in 24-hour increments after the original schedule.

b. Can be in less than the time specified above, subject to CARF discretion and after approval from the affected ARTCC/CERAP.

3–4–5. DELAY NOTIFICATIONS

As soon as the delay becomes apparent, notify the ALTRV approval authority and provide all available updated information.

3–4–6. EN ROUTE TIMING

In a non–radar environment, the aircraft shall advise ATC if actual fix timing will be more than plus or minus 5 minutes from the planned ALTRV en route fix estimate.
Section 5. Originator Responsibilities

3-5-1. TWO OR MORE COMMANDS
When two or more commands within the same service are involved in an exercise, the responsibility for planning and processing an ALTRV APREQ shall be accepted by each command unless notice is given to CARF that one command has accepted the responsibility for the other commands.

3-5-2. TWO OR MORE SERVICES
When two or more services (USAF, USA, USN, USMC) are involved in an exercise, the responsibility for planning and processing an ALTRV APREQ shall be accepted by each service unless notice is given to CARF that one service has accepted the responsibility for the other service(s).

3-5-3. MISSIONS REQUIRING EXTENSIVE ATC SUPPORT
Missions which originate on a Joint Chiefs of Staff or Service Headquarters level (USAF, USA, USN, USMC) and require extensive ATC support, shall be initially coordinated with FAA Headquarters, ATP-1, 800 Independence Avenue, S.W., Washington, DC 20591.

3-5-4. PROJECT OFFICER
The originator of the ALTRV request shall assign a project officer and an alternate project officer for each proposed ALTRV APREQ. These project officers shall be thoroughly familiar with the requirements set forth in this chapter and available for coordination until the ALTRV mission departure. DSN and commercial phone numbers shall be specified in Item G of the ALTRV APREQ in accordance with subparagraph 3-9-2 h(2) and (3).

a. The project officer shall coordinate the ALTRV APREQ with the following:

1. The ARTCC/CERAP in whose area the flight originates to obtain acceptable departure procedures up to the first cruising altitude. Additional data shall be provided in accordance with Section 9 of this chapter.

2. The using agency for approval to transit special use airspace; e.g., prohibited, restricted, warning, or military operations areas, etc.

3. The designated scheduling unit for approval to use or transit published refueling tracks/anchors and military training routes.

4. The appropriate FAA Liaison Officer.

b. It shall be the responsibility of the project officer to ensure receipt of the approvals specified in subparagraph a.

c. The project officer shall ensure that the ALTRV APVL and any subsequent amendments are coordinated with the aircrews.

d. In addition to the items listed in Section 9 of this chapter, the following information shall be included in the remarks section, Item G, of the ALTRV APREQ:

1. ARTCC/CERAPs in which ALTRV is flight planned.

2. EA and chaff information, including chaff authorization number, if applicable. (See subparagraph 3-1-3f.)

3. All individual flight plan from this point (IFPFP) routing and altitude information to the BEGIN ALTRV point and from the ALTRV termination point. Location, routing (IFPFP), and procedures for airborne spares to drop out/exit the ALTRV.

4. All special use airspace and ATC assigned airspace (ATCAA) for which approval has been obtained.

e. It shall be the responsibility of the originator and the project officer to ensure that ALTRV APREQs are submitted so as to reach CARF not later than the time criteria specified in paragraph 3-4-2, Order of Precedence. Proposed departure times of No-Notice missions shall be included. All mission aircraft, and other aircraft as deemed necessary by coordination between CARF and the project officer, shall be included in the ALTRV APREQs.
1. If the ALTRV APREQ is to be submitted by data communications equipment, the detailed information, format, and method of transmission shall be in accordance with Section 9 and Section 10 of this chapter.

2. If the ALTRV APREQ is to be submitted by mail, hand-carried, etc., it shall be recorded on the altitude reservation flight plan form which is printed and provided by the military commands.

f. When an ALTRV APREQ is mailed from a military base or transmitted via the DCS, the departure procedures must have been previously coordinated by the project officer with the associated ARTCC/CERAP.

g. The final approval authority will be determined in accordance with paragraphs 3–2–4, ALTRV Approval (APVL), and 3–3–2, ARTCC/CERAP Approval ALTRVs. CARF/EUCARF/PACMARF and all U.S. ARTCC/CERAPs shall be addressed when missions will enter their areas of responsibility. Missions which do not depart from within the U.S. CTA/FIR should be addressed to the appropriate altitude reservation unit.

h. The project officer shall be responsible for informing the final approval authority of any mission delay request.

i. The project officer shall ensure that aircraft commanders are briefed on the importance of maintaining planned ALTRV en route timing.

j. The project officer shall ensure that all air traffic facilities are provided aircraft call signs in the original submission of the ALTRV APREQ in accordance with existing directives.

3–5–5. ALTRVs ENTERING U.S. CTA/FIR

Military command headquarters located outside U.S. CTA/FIR proposing to conduct an exercise that will encompass activities within the U.S. CTA/FIR should effect coordination with CARF.

3–5–6. NO–NOTICE AND/OR DO NOT PASS TO AIR DEFENSE RADAR (NOPAR) MISSION

Every precaution shall be taken to safeguard the execution time and date of a No–Notice mission.

a. Information concerning NOPAR missions shall be withheld from specified air defense radar facilities and/or specified interceptor squadrons.

b. The following procedures apply:

1. If required, the project officer or the FAA Liaison Officer shall furnish the concerned FAA facilities, in separate correspondence, a list of “trusted agents” or “eyes only officers” with whom the time and dates of the No–Notice mission may be discussed.

2. The project officer shall specify “NOPAR” in the remarks sections of an ALTRV APREQ when mission information is to be withheld from all air defense radar facilities and fighter interceptor squadrons. When mission information is to be withheld only from specific Air Defense Radar Facilities and/or fighter interceptor squadrons, the facilities and/or squadrons shall be added to the ALTRV APREQ immediately after “NOPAR.”
Section 6. Separation

3–6–1. PLANNING/APPROVAL OF APREQs

The following separation minima shall be applied in the planning and approval of ALTRVs:

a. Vertical – Standard minima specified for the area of operation.

b. Lateral – Standard minima specified for the area of operation. When a mission requires operation on a broad frontal width, separation shall be provided in accordance with FAA Order 7110.65, Air Traffic Control, between the outer limits of such flight or formation and non–participating aircraft.

c. Longitudinal and Crossing.
   1. Domestic – 30 minutes.
   2. Oceanic – 60 minutes.

3–6–2. MILITARY AUTHORITY ASSUMES AUTHORITY FOR SEPARATION OF AIRCRAFT (MARSA)

When less than the separation in paragraph 3–6–1, Planning/Approval of APREQs, exists, MARSA shall apply as follows:

a. The originator of an ALTRV APREQ shall accept the responsibility for separation:
   1. Between all aircraft in the ALTRV.
   2. Between aircraft in the ALTRV and other aircraft or groups of aircraft utilizing the same “mission” name even though the flights originate from different air bases, division headquarters, and/or military commands.

b. When MARSA is applied between missions of different mission names, include a statement in the remarks section of the flight plan and ALTRV APREQ that includes the name(s) of the missions with which separation responsibility is accepted.

c. MARSA authorizes an ATC facility to clear a tanker to a common altitude with a receiver even though the altitude has not been processed as an ALTRV request. This information and the identification of the other aircraft must be included in the flight plan(s).

3–6–3. IN–FLIGHT SEPARATION

ATC facilities shall provide separation in accordance with FAA Order 7110.65, Air Traffic Control, unless MARSA is applicable in accordance with paragraph 3–6–2, Military Authority Assumes Authority for Separation of Aircraft (MARSA).

3–6–4. POSITION REPORTS

a. In a nonradar environment or when requested by the controller, the first and last aircraft in a stream formation shall make position reports at each required reporting point and shall indicate position in the formation.

NOTE–
In Class A airspace, controllers may find it necessary to obtain information from pilots conducting certain military operations over and above that normally required for IFR flight.

b. The cell leader shall make position reports for the cell formation at each required reporting point.

NOTE–
Caution should be exercised by the pilot and the controller during the departure and/or arrival phase of the ALTRV to avoid referring to the lead aircraft and succeeding aircraft as a cell unless the definition of a cell formation is complied with.

c. Aircraft in an ALTRV, other than in a stream or cell formation, shall make position reports as individual aircraft or flight plan formation.

d. ATC facilities may authorize communications out/reduced communications procedures in lieu of radio position reporting if required by military operations and prior coordination has been accomplished with affected ATC facilities.

3–6–5. USE OF AIRSPACE THROUGH ALTRV

Approval of airspace for an ALTRV shall not preclude ATC from using such airspace, provided that separation is applied in accordance with FAA Order 7110.65, Air Traffic Control, between other aircraft and aircraft within the ALTRV.
Section 7. Special/Emergency ALTRVs

3−7−1. INTERNATIONAL PRESIDENTIAL FLIGHTS

When requested, ALTRVs shall be provided for aircraft transporting the President or the Vice President when conducting international flights. Headquarters USAF will authorize a Class One order of precedence for those flights.

a. The appropriate military authority will provide CARF with detailed flight plan information, both to the destination and return, as far in advance as possible.

b. CARF shall arrange for ALTRVs for Presidential and Vice Presidential rescue support aircraft.

3−7−2. PROCESSING WAIVERS

a. ALTRV requests which do not qualify under the provisions of this section and cannot otherwise be accomplished will be handled on an individual basis.

b. ALTRV requests shall be forwarded, with accompanying justification, to the David J. Hurley Air Traffic Control System Command Center, ATTN: Central Altitude Reservation Function, 13600 EDS Drive, Suite 100, Herndon, VA 20171−3233. A waiver will be issued by CARF if deemed appropriate.

c. All originating units shall process such requests through channels to the appropriate Command Headquarters for transmittal to CARF.

3−7−3. EMERGENCY ALTITUDE RESERVATIONS

CARF or an ARTCC/CERAP may approve a request for an emergency ALTRV if the safety of life or property is threatened. Operations such as search and rescue, hurricane evacuation, or mass air evacuation may be considered in this category. When an ARTCC/CERAP approves an ALTRV under this paragraph, the following actions shall be taken:

a. The facility shall advise CARF and other concerned ARTCC/CERAPs of the approved ALTRV in detail by the most expedient means.

b. Upon receipt of such notification, CARF shall take immediate action to preclude possible conflict between ALTRVs previously approved by CARF and the emergency ALTRV.
Section 8. Altitude Reservation NOTAMs

3–8–1. CRITERIA

The issuance of an altitude reservation NOTAM, except as provided in subparagraph 3–8–2c, involving the U.S. control area/flight information region (CTA/FIR) shall be governed by the following procedures:

a. Issue an altitude reservation NOTAM for:

   1. All Stationary Altitude Reservations.

   NOTE—CARF, ARTCC, or CERAP (whoever is the final approval authority) shall issue the NOTAM.

   2. Selected Moving Altitude Reservations, whenever a portion of the ALTRV includes air refueling and/or other unusual activity below FL 180, or when the activity covers a broad frontal width.

b. Describe the area which is in use and the duration of the ALTRV. Reference shall not be made to the type of activity within the ALTRV unless the originator has agreed to the publication of this information.

   EXAMPLE—ZNY CARF NR. 270 ON GOLF ONE STATIONARY RESERVATION WITHIN A 100NM RADIUS OF 3700N 4500W SFC−FL270 WEF 9703231500−9703231700

3–8–2. FORMULATION AND DISSEMINATION

   a. The final approval authority, CARF or the appropriate ARTCC/CERAP, is responsible for the formulation and dissemination of appropriate NOTAMs for those ALTRVs which they have approved in their area of jurisdiction.

   b. Coordination shall be effected between adjacent ARTCC/CERAPs if it will permit consolidation of NOTAM information as prescribed above for the issuance of a joint altitude reservation NOTAM.

   c. Altitude reservation NOTAMs shall not be issued under the following conditions:

      1. If the originator of an ALTRV request specifies “Secure Handling” by assigning one of the following classifications to the request:

         (a) Confidential.

         (b) Secret.

         (c) Top Secret.

      2. The mission is a No−Notice mission, except that appropriate altitude reservation NOTAMs may be issued after specific instructions have been received from the originator of the mission.

      3. On portions of an ALTRV which are conducted in accordance with published activities; e.g., Military Training Routes, etc.
Section 9. Altitude Reservation Approval Request (ALTRV APREQ), Format, and Amendments

3–9–1. ALTRV APREQs

The originator shall file an ALTRV APREQ with CARF in accordance with the instructions contained in this order unless specific guidance or instruction has been pre–coordinated with CARF/ARTCC/CERAP.

a. Whenever possible, ALTRV APREQs should be sent unclassified.

b. If sent classified or encrypt for transmission only (EFTO), advise CARF of the earliest time the message may be declassified or EFTO may be dropped; i.e., 24 hours prior to departure, upon departure, etc. Classified or EFTO missions cannot be coordinated with international facilities or agencies unless written permission is given by the unit or command that files the APREQ. Advise CARF of the earliest declassification time in item G of APREQ.

3–9–2. FORMAT

In order to accomplish timely data processing by the CARF automated system, ALTRV APREQs must be properly formatted prior to submission to CARF, or other approval authority, utilizing key phrases outlined in this paragraph and Section 10, Flight Path Format Components. Indicate the following items on all ALTRV APREQ messages:

NOTE—
N/A may be used in a stationary ALTRV for items A thru C, E thru F, when applicable.

a. Heading: “ALTRV APREQ,” the mission name, and a slash “/” followed by the mission class. ALTRV APREQs filed in support of another ALTRV shall file the same mission name and mission class, followed by the word “SUPPORT.”

EXAMPLE—
ALTRV APREQ CORONET WEST 450A/7
ALTRV APREQ FULL UP 95–4/8
ALTRV APREQ FULL UP 95–4/8 SUPPORT

b. Item A, Call Sign(s): “A” followed by the call sign(s) of all aircraft which will depart together from the location specified in item C. Call signs shall not exceed seven alphanumeric characters in length; the tactical call sign is a pronounceable word of 3 to 6 alphabetical characters followed by a 4, 3, 2, or 1 digit number. When there are multiple flights with the same tactical call sign, combine the numbers portion by separating consecutive series with a dash and individual numbers with a comma.

NOTE—
Do not include the call signs of aircraft which file individual flight plans to join the ALTRV en route. These will be noted in the Item D or G.

EXAMPLE—
A. BONE11–13
   (This indicates BONE11, BONE12 and BONE13).
A. HAPPY32,34
   (This indicates HAPPY32 and HAPPY34).
A. PINE80,81 MOOSE31–33
   (This indicates PINE80, PINE81, MOOSE31, MOOSE32, MOOSE33).

c. Item B, Number and Type of Aircraft: “B” followed by the number of aircraft if more than one; heavy indicator “H,” if appropriate; type of aircraft; and equipment suffix code. The items should be specified in the same order that the call signs appear in Item A, and the number of aircraft should agree with the number of call signs.

EXAMPLE—
B. 3HB52/R
   (3 is the number of aircraft, H indicates heavy, B52 is the type of aircraft, and R is the equipment suffix code).

d. Item C, Point of Departure: “C” followed by the four–letter ICAO location identifier. When the point of departure is classified, indicate “ZZZZ.” Do not include the departure point of aircraft that file individual flight plans which join the ALTRV en route.

EXAMPLE—
C. KJAX
C. PANC

e. Item D, Route of Flight, Elapse Times, and Altitudes: “D” followed by the route of flight, elapsed times between segments on the routes, and the altitude to be flown for each segment (fix–time–event sequence).

EXAMPLE—
D. 1–2–3
D. 1–2–3
D. 1–2–3

I. Route of Flight: The route of flight will include events or actions within the route and may be composed of any number of flight paths as
defined in Section 10, Flight Path Format Components. Route of flight for operations above FL 180 should be defined in relation to established high altitude navigation aids only. The route of flight segment for a stationary ALTRV shall adhere to the guidelines outlined in subparagraphs 3–10–4a–e.

**NOTE—**
When tanker aircraft do not depart with the ALTRV but join up at a later point, provide the following information, at the point at which they join the ALTRV: “JOIN”; the call sign; the number, type and equipment suffix, as in subparagraph c above; “IFPFP”; and the point of departure.

**EXAMPLE—**

JOIN JOE53 KC10/R IFPFP PHIK

2. Elapse times: Times should be specified in four digits which express hours and minutes. Indicate cumulative time elapsed in one of the following manners:

(a) When timing begins upon departure, from the point of departure.

**EXAMPLE—**

0012 (This indicates 12 minutes from the time of departure).

0509 (This indicates 5 hours and 9 minutes from the time of departure).

(b) When timing begins over the first fix of a partial route, indicate the beginning point as the first fix in Item D, with the elapse time of “0000.”

**NOTE—**
See subparagraph 3–9–2g, for associated language required in Item F, Departure Information.

**EXAMPLE—**

(PR FL250 DKB 090/025 0000 ALTRV BEGINS

3. Altitudes: Indicate the altitude in three digits expressed in hundreds of feet; “SURFACE” may be used to indicate altitudes which extend from the surface of controlled airspace. Precede the altitude with “FL” for altitudes of 18,000 feet or above. Insert “B” between the lower and upper limits of a block altitude.

**NOTE—**
Flight levels may be used in oceanic airspace below 18000 feet if required to set altimeter to 29.92.

**EXAMPLE—**

090 (indicates 9,000 feet)

FL 190 (indicates 19,000 feet)

FL 230B250 (indicates block altitudes of 23,000 feet through 25,000 feet).

f. Item E. Destination: “E” followed by the four-letter ICAO location identifier and the cumulative elapsed time (optional) to the destination, expressed as in subparagraph e2, above.

1. When all aircraft proceed to the same destination, no additional information is needed.

2. When there are multiple destinations, specify the call sign and location identifier for the destination for all aircraft that remain in the ALTRV at ALTRV end point as follows:

(a) Call sign.

(b) Location identifier for the destination.

(c) Elapsed time. (Optional)

3. When the destination is classified, indicate “ZZZZ”; no elapsed time should be shown.

**EXAMPLE—**

E. PHNL 0405

E. CLAN80,81 PHNL ZESTY12 PHNG

E. ZZZZ

g. Item F, Departure Information: “F” followed by “ETD” and:

1. When timing begins upon departure, the date time group of the estimated time of departure.

   (a) If a single group is departing, indicate the day of the month and UTC time, expressed in six digits, and the month and year of departure.

   (b) If more than one group is departing, indicate the call sign for each group, in the order of departure, followed by the date time group.

   (1) For the first group, specify the date time group as in subparagraph (a) above.

   (2) For successive groups, indicate only the day of the month and UTC time, expressed in six digits.

2. When timing begins over the first fix of a partial route, the phrase “ALTRV BEGINS OVER (fix) AT,” followed by the date time group, as specified in subparagraph 1 above.

**EXAMPLE—**

ETD ALTRV BEGINS OVER DKB 090/025 AT 161815 MAY 1996
3. Interval Between Aircraft (ADMIS): The ADMIS should be specified for any group of more than one aircraft. Indicate one of the following:
   
   (a) “ADMIS” followed by two digits which indicate the number of minutes between departing aircraft in the group.

   (b) “ADMIS” followed by two digits and “SEC” to indicate the number of seconds between departing aircraft in the group.

   (c) “FRMN” to indicate that departing aircraft are considered as one and will depart in less than 30 second intervals.

4. AVANA Time: “AVANA” followed by the date time group, expressed in six digits.

   EXAMPLE–
   F. ETD 020030 JAN 1997 020130
   F. ETD BONE11–16 020030 JAN 1997
   ADMIS 30 SEC
   BONE17,18 020100 FRMN
   BONE19 020130 AVANA 020230

h. Item G, Remarks: “G” followed by:

1. “TAS.” Include the airspeed in three digits and “KTS.” Indicate if cruise and air refueling speed are different.

2. “PROJECT OFFICER.” Include the name, grade, and DSN and commercial phone numbers of the project officer.

3. “ALTERNATE PROJECT OFFICER.” Include the name, grade, and DSN and commercial phone numbers of the alternate project officer.

4. “ADDITIONAL INFORMATION.” Include any remarks pertaining to the execution of the mission; i.e., MARSA, NOPAR, EA activity, IFPFP routings, etc.

NOTE–
A MARSA statement must be included if the aircraft will fly less than standard separation.

5. “ARTCC.” List the names of all ATC facilities which will be concerned with the ALTRV.

6. “REQUEST COPY OF ALTRV APVL BE SENT TO.” (Optional) List any additional parties that need a copy of the ALTRV APREQ. (See subparagraph 3–2–4a.)

EXmPLe–
G. TAS: 430KTS CRUISE/AIRFL
G. TAS: 440KTS CRUISE  410KTS AIRFL
PROJECT OFFICER: CAPT PAUL DSN 555–5555/COMM 111–555–111
ALTERNATE PROJECT OFFICER: CAPT BARTKO DSN 555–5556/COMM 111–555–222
ADDITIONAL INFORMATION: MARSA
ALL BUSY LEADER OSCAR AIRCRAFT.
ARTCC CONCERNED: ZNY ZDC CARU EUCARF
REQUEST COPY OF ALTRV APVL BE SENT TO 438MAW MCGUIRE AFB NJ//DO

3–9–3. ALTRV APREQ AMENDMENTS

When necessary to amend an ALTRV APREQ, indicate the following:

a. Heading: “Amendment to,” followed by the heading information as specified in the original APREQ.

b. Date Time Group: “ROMES” (Reference our message) followed by the date time group of the original APREQ message.

c. Estimate Time of Departure: “ETD” followed by the date time group specified in Item F on the original APREQ.

d. Amendment(s): “AMEND” followed by the item(s) to be amended and the amendment; indicate the specific item on the original APREQ; such as, Item A, Item B, etc.

e. Ending: “ALL ELSE REMAINS THE SAME.”

EXmPLe–
AMENDMENT TO ALTRV APREQ SHARP SHOOTER 97–1/8
ROMES 111012 ETD 191500 FEB 1997
AMEND ITEM A AND B
ITEM A RAVEN01–07
ITEM B 7EF111/R
ALL ELSE REMAINS THE SAME
Section 10. Flight Path Format Components

3–10–1. INTRODUCTION

This section supplements paragraph 3–9–2, Format. It contains detailed instructions on the format of flight path components and provides examples of properly formatted ALTRV APREQs.

3–10–2. DEFINITION

A flight path is defined as a consecutively listed set of fix/time/event groups in which the fixes in the set will be successively flown over. A route of flight may be composed of any number of flight paths; aircraft may merge or separate at various points along the route of flight.

3–10–3. FORMAT

Flight paths are separated by the phrases defined in paragraph 3–10–4, Components, which begin and/or end events along the route. The repetition of previously listed fixes is to be avoided. When flight paths merge or separate, the last fix listed in a flight path should be the point of merger or separation. Accordingly, the first fix listed in a flight path should not repeat the point of merger or separation.

a. Fixes should be used in one of the following formats:

1. A two to five letter NA V AID identifier, location identifier, or fix name.

   EXAMPLE−
   DB Burwash NDB
   OKC Oklahoma City VORTAC
   KNTU NAS Oceana
   DENNS The fix DENNS

2. A fix/radial/distance; specify the NA V AID, the radial in degrees magnetic, a slash “/” and the distance in nautical miles, expressed in three digits.

   EXAMPLE−
   RDF 070/040 (This indicates 40 NM DME on the 70 degree radial of the RDF NA V AID).

3. A latitude/longitude expressed in degrees and minutes with the appropriate “N,” “S,” “E,” “W” suffix.

b. Altitudes should be in one of the following formats:

   1. Below 18,000 feet – expressed in hundreds of feet.

   NOTE−
   Flight levels may be used in oceanic airspace below 18,000 feet if required to set altimeter to 29.92.

   2. Flight levels – “FL” followed by the three digits of the altitude/flight level (18,000 feet and above).

   3. Block or range of altitudes:

      (a) Below 18,000 feet – the lower limit, “B,” then the upper limit expressed in hundreds of feet.

      (b) Flight levels – “FL,” the lower limit, “B,” and the upper limit expressed in three digits of altitude/flight level.

   NOTE−
   When using two or more altitudes, the base altitude should be the correct altitude for the direction of flight.

   EXAMPLE−
   110 11,000 feet
   FL210 Flight level 210 (21,000 feet)
   FL210B250 FL210 through FL250

c. Airways should be in one of the following formats:

   1. Victor airways – “V” followed by the one, two or three digit number of the airway.

   2. Jet routes – “J” followed by the one, two or three digit number of the route.

3–10–4. COMPONENTS

The following phrases are to be used in Item D when filing an ALTRV APREQ. Unless otherwise noted, these phrases refer to events that occur immediately “following” the specified fix/time. The exceptions are LVLOF BY, cross events and the begin partial
route statement. Only certain listed phrases are known to the CARF computer system. Any use of nonstandard phrases in Item D, unless contained within brackets [], will prevent timely processing of the ALTRV. The use of brackets for nonstandard phrases will cause the CARF computer to skip over the phrase and not utilize it for plotting or conflict detection. As used in this order, the phrases set forth below shall have the meaning indicated.

   a. ACCELERATE TO SUPERSONIC. Supersonic speed will commence at the fix/time which precedes this phrase. (See End Supersonic.)

   EXAMPLE--
   BOS 0200 ACCELERATE TO SUPERSONIC

   b. AIRFL BEGINS or BEGIN AIRFL. Point at which air refueling begins.

   EXAMPLE--
   VUZ 0025 AIRFL BEGINS
   PLB 216/053 BEGIN AIRFL

   c. AIRFL ENDS or END AIRFL. Point at which air refueling ends.

   EXAMPLE--
   LMN 0139 AIRFL ENDS
   SAV 0212 END AIRFL

   d. ARCP. Point at which the receiver arrives in the observation/refueling position with respect to the assigned tanker.

   EXAMPLE--
   RZS 0029 ARCP

   e. ARIP. Point at which the receiver enters the refueling track, initiates radio contact with the tanker, and begins maneuver to join up.

   EXAMPLE--
   RZS 0019 ARIP

   f. BEGIN ALT DPRT RTE or ((AR. Specifies two or more alternate routes from the point of departure. This should either be the first phrase of Item D or immediately follow a previous alternate departure route. The phrase should be followed by:

   1. Alternate departure route description enclosed in square brackets “[]”.

   2. Call signs of the aircraft which will utilize the route; this may be omitted if the route will be used by all of the aircraft specified in Item A.

   3. Altitude.

   EXAMPLE--
   BEGIN ALT DPRT RTE [OPTIMUM SOUTH RUNWAY] FL210B230
   ((AR [CALDI SIDOR] BONE13–19 FL220B240
   ((AR [NORTH DEPARTURE] BONE13–19 FL190B210
   ((AR [SOUTH DEPARTURE] BONE13–19 FL190B210

   g. BEGIN BRANCH RTE or ((BR. A track of an ALTRV that is defined from the breakaway point from a common route to the next fix or final destination. The phase should be followed by:

   1. Call signs of aircraft which will utilize this route.

   2. Altitude, if the point of separation is the departure point.

   3. DPRT ORBIT AT (time). If the aircraft separate at an orbital point (“AT” is optional); or EXIT STATIONARY RESERVATION AT (fix/time) or EXIT MANEUVERING AREA AT (fix/time) if aircraft separate upon exiting a stationary reservation.

   4. FROM (fix). Indicates the point at which aircraft taking the branch route separate from the main body; the phrase is followed by the name of the fix and the time.

   NOTE--
   A branch route starts from a point on an existing ALTRV, whereas a partial route starts from a non–ALTRV section, such as an IR route, warning area exit point, etc.

   EXAMPLE--
   BEGIN BRANCH RTE LUCID98,99 FL210B230
   FROM STL 0200
   ((BR LUCID101–103 FL250B260 FROM STL
   BEGIN BRANCH RTE LUCID98,99 FL200B220
   DPRT ORBIT AT 0232
   ((BR LUCID101–103 FL230B250 EXIT STATIONARY RESERVATION AT 3000N 6600W 0330.
h. BEGIN CMN RTE or BEGIN CMN RTE/TIMING/ALT or ((CR. – Defines a route formed by the merger of two or more flight paths when “JOIN” is not used. This phrase should follow all of the branch routes which merge into the common route. It should be followed by:

1. Call signs of all aircraft merging into this route at its starting point.

2. Altitude.

3. FROM (fix/time). (optional) Indicates the point at which the aircraft merge; the phrase is followed by the name of the fix and the time.

EXAMPLE–
BEGIN CMN RTE BONE11−15 LUCID98,99 FL190B220 FROM MEM 0200
((CR BONE11−14 FL210B230 FROM STL 0200

i. BEGIN (number) NM FRONT (number) NM EITHER SIDE OF A CENTER LINE (fix/time)...(fix/time) FRONT ENDS. Describes an event which occupies a frontal width, measured perpendicular to the direction of flight, which is greater than normal. The broad front event is the specified number of nautical miles wide and is centered on a line of the specified fixes; two or more fixes should be specified.

EXAMPLE–
DENNS 0321 BEGIN 60NM FRONT 30NM EITHER SIDE OF A CENTER LINE FUFE 0406 DANKA 0451 FRONT ENDS

j. BEGIN PARTIAL RTE or ((PR or ((... Used when it is desired to start the ALTRV en route. There are four types of partial route formats:

1. A PR may be used when the pilot wishes to be expedited on departure or for security reasons.

EXAMPLE–
((PR FL270B280 AEX 0200 ALTRV BEGINS LFK 0230 MCN 0300.

2. A PR may be used for an ALTRV coming from an international departure point inbound to U.S. airspace.

EXAMPLE–
((PR FL240B260 4300N 3500W 0300 4300N 4000W 0340 4300N 4500W 0410.

3. A PR may be used for an aircraft recovering from special use airspace and returning back to destination on an ALTRV.

EXAMPLE–
AEX 0300 ALTRV ENDS IFPFP INTO MORRIS MOA DLA 1+00.
((PR FL270B290 AEX 260/040 0400 ALTRV BEGINS DRCT AEX 0420 FTW 0440.

4. PR may be used for an ALTRV beginning over a fix at a specific time.

EXAMPLE–
((PR FL270B290 ...ALTRV BEGINS OVER AEX AT 0000 (1340Z) LFK 0020 CEW 0120.
(In item F)
F. ETD: ALTRV BEGINS OVER AEX AT 121340
ADMIS 20 SEC AVANA OVER AEX 121440

k. CELESTIAL NAVIGATION (CELNAV). This may be filed for use in a Broad Front.

EXAMPLE–
FIX 0321 BEGIN 30NM FRONT CEL−NAV 15NM EITHER SIDE OF A CENTER LINE FIX 0355
FIX 0421 FIX 0433 FRONT ENDS FIX 0500.

l. CLMB. Indicates that the new altitude range extends above the old altitude and does not include all of the previous altitudes. A level−off point (LVLOF) is required.

EXAMPLE–
FL280B310 LVLOF BY FSD 319/060 0213 OBR 0222 MOT 0252 CLMB FL390 LVLOF WI 20NM

m. CMPS. Indicates that the new altitude includes some of the previous altitude range but does not extend above or below the old altitude range. A level−off point (LVLOF) is required.

EXAMPLE–
FL280B310 LVLOF BY FAM 134/067 0054 FAM 0104 LMN 0139 CMPS FL310 LVLOF BY FSD 0205

n. CROSS (fix/time) AT (altitude) OR ABOVE/Below. Restricts the climb or descent to an altitude so that the ALTRV will be within the specified altitude range when passing over the specified fix. A level−off point (LVLOF) is required.

EXAMPLE–
CLMB FL260B280 CROSS CAP 0105 AT FL250 OR ABOVE LVLOF BY BVT 0210

o. DRCT. Utilized to eliminate doubt as to when an action occurs.

EXAMPLE–
FROM MEM DRCT LIT 0250
p. DSND. Indicates that the new altitude range extends below the old altitude range and does not include all of the previous altitudes. A level-off point (LVLOF) is required.

**EXAMPLE—**

FL390 LVLOF BY VUZ 0025 DSND FL280B310
LVLOF BY FAM 134/067 0054

q. ENCAN or EXCAN. Point and time at which aircraft will enter or exit Canadian airspace. These fixes must be defined as both a fix/radial/distance and a latitude/longitude; one of these must be enclosed in square brackets “[ ],” but not both.

**EXAMPLE—**

YSC 205/026 [4500N 7200W] 0206 ENCAN DRCT
YIB 0230 PQI 330/28 [4716N 9130W] 0300 EXCAN

r. END CMN RTE. Point at which the aircraft will separate into two or more routes.

**EXAMPLE—**

((CR BONE11–14 FL210B230 STL 0200 MKC 0240 END CMN RTE

s. END RTE or ). A general terminator for routes; the fix/time which precedes this event is the final point of the route (LAND, IFPFP, END CMN RTE, JOIN CMN RTE, or “...” may be substituted for this phrase. It does not indicate the disposition of the aircraft at the point of termination.

**EXAMPLE—**

STL 0200 END RTE
STL 0200 )
STL 0200 LAND
STL 0200 IFPFP
STL 0200 END CMN RTE
STL 0200 JOIN CMN RTE
STL 0200 ...

**t. END SUPERSONIC.** Point where supersonic speed will cease. (See Accelerate to Supersonic.)

**EXAMPLE—**

BOS 0200 ACCELERATE TO SUPERSONIC 4200N 6700W 0230 END SUPERSONIC

u. ENTER STATIONARY RESERVATION or ENTER MANEUVER AREA or ENTER TIMING TRIANGLE. Utilized whenever it is desired to reserve a stationary volume of airspace within a moving ALTRV for some period of time; point and time of entry are indicated by the fix/time which precedes the phrase. The phrase should be followed by:

1. Definition of the vertical altitude range of the stationary reservation; may be omitted if the range is the same as the altitude held prior to entry into the reservation.

2. Definition of the boundary of the stationary reservation. One of the following phrases should be utilized:

   (a) (number) NM EITHER SIDE OF A LINE BETWEEN (fix)...(fix). Defines a corridor the indicated number of nautical miles wide centered on the line segments which connect the specified fixes; specify two or more fixes.

   (b) BNDD BY (fix)(fix)...(fix) or WITHIN AN AREA BNDD BY (fix)(fix)...(fix). Defines an area bounded by the line segments which connect the specified fixes; specify three or more fixes.

   (c) WITHIN (number) NM RADIUS OF (fix). Defines a circle with a radius of the indicated number of nautical miles centered about the specified fix.

3. EXIT AT (fix/time) or EXIT STATIONARY RESERVATION AT (fix/time) OR EXIT TIMING TRIANGLE AT (fix/time). Point and time of exit specified by the fix/time which follows the phrase.

**EXAMPLE—**

UPP 0123 ENTER STATIONARY RESERVATION
090B110 WITHIN AN AREA BNDD BY UPP MUE
IAI IAI 320/050 EXIT AT UPP 0223
OBH 0345 ENTER MANEUVER AREA 20NM EITHER SIDE OF A LINE BETWEEN OBH ONL EXIT AT ONL 0358
OBH 0123 ENTER TIMING TRIANGLE BNDD BY OBH ONL ONL 180/050 EXIT TIMING TRIANGLE AT ONL 0223
UPP 0305 ENTER MANEUVER AREA WITHIN 50NM RADIUS OF UPP EXIT MANEUVER AREA AT UPP 200/050 0345

**v. IBASF (number).** Point and time at which aircraft will initiate a stream formation with the aircraft separated by the specified number of minutes.

**EXAMPLE—**

TUL 0038 IBASF 5
TUL 0038 IBASF 12

**NOTE—**

The system will not modify the ALTRV length to accommodate the specified spacing. If the spacing will place aircraft outside the reservation, the AVANA time should be increased accordingly.
w. IFPFP (Individual Flight Plan From Point). Point and time at which aircraft will proceed to their destination on individual flight plans. This event is used to allow the controller to pre-plan clearances prior to the break-away fix. Most foreign nations mandate IFPFP information. File all IFPFP routing information to and from the ALTRV:

1. To join the ALTRV.
2. When receiver(s) and/or tankers leave ALTRV en route.

EXAMPLE--
Item D: ...OKC 0310 LEAVE EXXON02 IFPFP TO KGSB
Item G: ...IFPFP RTG FOR EXXON02 FROM OKC...REQ CLMB FL310 DRCT CAP FAM MEM JAN

3. When receiver/tanker buddy launch and terminate ALTRV en route.

EXAMPLE--
Item A: TIGER1–10 EXXON3–5
Item D: ...FIX 0310 FIX 0340 ALTRV ENDS IFPFP
Item G: IFPFP RTG FOR TIGER1–10 FROM FIX ...REQ FL260B270 DRCT FIX FIX FIX DESTINATION FIX.

IFPFP RTG FOR EXXON3–5 FROM FIX ...REQ CLMB FL290 DRCT FIX FIX FIX DESTINATION FIX.

4. When receiver/tanker join the ALTRV en route and terminate the ALTRV en route, IFPFP routing information is required for both receiver and tanker to and from the ALTRV.

5. When receivers file air spares. The project officer is required to file IFPFP routings for air spares from the break away FIX back to destination.

EXAMPLE--
Item D: FIX 0340 LEAVE AIR SPARES MAZDA 27–28 IFPFP TO KDYS FIX 0400
Item G: IFPFP RTG FOR AIR SPARES MAZDA 27–28 FROM FIX ...REQ CLMB FL280 DRCT FIX FIX FIX DESTINATION FIX.

x. JOIN (call sign). Point and time at which the specified aircraft merge with aircraft from another route on a common route. (See Leave)

EXAMPLE--
FSD 0213 ARCP JOIN INSET34

y. JOIN CMN RTE TO (fix). Point at which aircraft will join a route described on another ALTRV. The phrase is followed by:

1. Fix/time at which aircraft leave the common route, or,
2. “END” when the aircraft will proceed with the other ALTRV to destination, or ALTRV ending point.

EXAMPLE--
JAX 0155 JOIN CMN RTE TO MIA 0344
JAX 0245 JOIN CMN RTE TO END

z. LAND. Point at which aircraft will land.

EXAMPLE--
IAD 0534 LAND

aa. LEAVE (call sign). Point and time at which the specified aircraft are to separate from the route being defined. This phrase is used in the following circumstances:

1. When it is desired to defer the description of the separating aircraft’s flight path until the description of the current route is completed.
2. When the flight path of the separating aircraft is defined on another ALTRV.
3. When the flight path of the separating aircraft is not part of the ALTRV.

(See Join)

EXAMPLE--
MOT 0311 LEAVE INSET34

ab. LVLOF or LVLOF BY (fix) or LVLOF W/I. Altitude transition is to be completed “by the fix following LVLOF or LVLOF by or,” within the specified number of nautical miles of the fix which precedes LVLOF W/I; this phrase is not needed when the new altitude contains all of the previous altitude.

EXAMPLE--
FL250B270 FIX 0200 XPND FL250B280 LVLOF BY FIX 0220.

ac. ORBIT W/I (number) NM RADIUS DPRT ORBIT AT (time). Utilized to orbit aircraft within the specified number of nautical miles about the fix which precedes the phrase and to have the aircraft depart the orbit at the specified time; the use of “W/I” and/or “AT” is optional.

EXAMPLE--
MCK 0213 ORBIT 30NM RADIUS DPRT ORBIT AT 0233
NOTE—
When aircraft will follow the same route but depart the orbit at different times, indicate only the elapsed time of the first aircraft to depart. Information specific to individual aircraft should be placed in square brackets “[ ]”.

EXAMPLE—
MKC 0213 ORBIT W/I 30NM RADIUS DPRT ORBIT 0233 [IBASF 0233 BOXES06 0233 BOXES07 0243 BOXES08 0253]

ad. Rendezvous (RNDZ) (call sign). Same as JOIN.

ae. STATIONARY RESERVATION. This is the first phrase in Item D whenever a stationary ALTRV is being utilized. The phrase should be followed by definitions of the:

1. Vertical altitude range.
2. Boundary. One of the following phrases should be utilized:
   (a) (number) NM EITHER SIDE OF A LINE BETWEEN (fix)...(fix). Defines a corridor the indicated number of nautical miles wide centered on the line segments which connect the specified fixes; specify two or more fixes.
   (b) BNDD BY (fix)(fix)...(fix) or WITHIN AN AREA BNDD BY (fix)(fix)...(fix). Defines an area bounded by the line segments which connect the specified fixes; specify three or more fixes.
   (c) WITHIN (number) NM RADIUS OF (fix). Defines a circle with a radius of the indicated number of nautical miles centered about the specified fix.
3. Duration of the activation, by indicating “FROM (day of the month and UTC time, month and year) TO (day of the month and UTC time, month and year).”

EXAMPLE—
STATIONARY RESERVATION 090B110 WITHIN AN AREA BNDD BY UPP MUE IAI IAI320/050 FROM 200035 JULY 1997 TO 260400 JULY 1997

af. XPND. Indicates that the new altitude range extends above and/or below the old altitude range and includes all of the previous altitudes.

EXAMPLE—
CMPS FL310 LVLOF BY FSD 0205 FSD 319/020 0207 XPND FL280B310

ag. Point at which the aircraft will exit CARF jurisdiction and will cease to be defined.

EXAMPLE—
SOK 0210...

3–10–5. EVENTS THAT PRECEDE FIX/TIME
The following phrases refer to events that immediately precede the fix and time: LVLOF; CROSS; BEGIN BRANCH ROUTE, ALTERNATE ROUTE, PARTIAL ROUTE COMMON ROUTE; EXIT AT.

3–10–6. ALTRV APREQ EXAMPLES
The following are examples of formatted ALTRV APREQs.

a. Moving ALTRV with tankers joining en route and leaving the ALTRV IFPFP:

ALTRV APREQ BUSY LEADER OSCAR 97–1/6
A. PRO01,04,06 ZESTY51–55
B. 3B52/A 5KC135/A
C. KRME

E. KRME 0729
F. ETD PRO01 ZESTY51–53 290855 APR 1997
ADMIS MITO
PRO04 ZESTY54–55 290955 ADMIS MITO
PRO06 291055 AVANA 291155

G. TAS: 430KTS CRUISE/390KTS
AIRFL/340KTS LOW LEVEL
PROJECT OFFICER: MAJ. STEFANZIC
DSN 555–5555/COMM 111–555–1111

ALTERNATE PROJECT OFFICER:
CAPT. KARI DSN 555–5556/
COMM 111–555–2222

ADDITIONAL INFORMATION: MARSA ALL
BUSY LEADER OSCAR AIRCRAFT.

IFPFP ROUTING FOR PRO01, 04, 06 FROM
FNT 105/105: REQ FL350 DRCT CRW PSB GSS
060/017 RME.

ARTCC: ZBW, ZOB, ZDC, ZTL, ZID, ZJX, ZKC,
ZMP, ZAU, INFO ZNY

ALTRV APREQ MAPLE FLAG DEPLOY 97/4
A. LION1–6
B. 6F15/R
C. KVPS

D. FL270B290 RAVEC CEW 009/024 0007 J39
LVLOF BY MGM 0014 J39 VUZ 0025 VUZ
333/121 0039 ARIP FAM 134/067 0054 ARCP
JOIN NORGE99 KC135 IFPFP FROM KIAB
AIRFL DRCT FAM 0104 LMN 0139 AIRFL
ENDS LEAVE NORGE99 IFPFP TO KIAB FSD
0205 J45 FSD 319/020 0207 ARIP FSD 319/060
0213 ARCP JOIN INSET 34 KC135 IFPFP FROM
KRDR AIRFL DRCT ABR 0222 MOT 0252
4900N 10220W 0300 ENCAN 4940N 10315W
(MOT 304/061) 0314 AIRFL ENDS LEAVE IN-
SET 34 IFPFP TO KRDR CLMB FL330 LVLOF
W/I 20NM DRCT VLN 0348 UOD 0355
E. CYOD

F. ETD: 111750 MAY 1997 ADMIS 20 SEC
AVANA 111850

G. TAS: 420KTS AIRFL/510KTS CRUISE
PROJECT OFFICER: MAJ TRACY
DSN 904–4426, COMM 703–904–4426

ALTERNATE PROJECT OFFICER:
CAPT KELLY DSN 904–4400,
COMM 703–904–4427

ARTCCS CONCERNED: ZJX ZTL ZME ZKC
ZMP ARU ADDITIONAL INFORMATION:
MARSA ALL MAPLE FLAG DPLY ACFT EN-
TIRE MISSION. ALL ACFT MNPS CERTIFIED.

IFPFP RTG FOR INSET34 FROM 4940N
10315W REQ CLMB FL390 DRCT
FIX.. FIX.. FIX.. FIX

b. Stationary ALTRV which includes aircraft:
ALTRV APREQ BUSY OBSERVER FERTILE
SPADE 97–2/7
A. RIMER15–16
B. 2HB52/A
C. KRME

D. STATIONARY RESERVATION SURFACE
TO 160 WITHIN AN AREA BNDD BY 4000N
6600W 4000N 6200W 3600N 6200W
6600W FROM 012200 MAY 1997 TO 020200
MAY 1997.
E. KRME
F. N/A

G. TAS: 430KTS CRUISE/320KTS LOW LEVEL
PROJECT OFFICER: CAPT ROGER
DSN 555–5555/COMM 111–555–5556

ADDITIONAL INFORMATION: MARSA ALL
AMC AND ACC ACFT. NOPAR NEADS BUSY
OBSERVER AIRCRAFT WILL PARTICIPATE IN
NORAD FERTILE SPADE 97–2/7. NOTE ALTRV
APVL V ALID WHILE IN CONTROLLED AIR-
SPACE ONLY. ARTCC: ZBW, ZNY
c. Stationary ALTRV which does not include aircraft:

ALTRV APREQ KANOE 97–1/7

A. N/A
B. N/A
C. N/A

D. STATIONARY RESERVATION SURFACE TO FL180 WITHIN 100NM RADIUS OF 2030N 16000W FROM 132200 JUN 1997 TO 132330 JUN 1997

E. N/A
F. N/A

G. PROJECT OFFICER: CAPT MILLER
DSN 555–5555/COMM 111–555–5556
Chapter 4. FAA/NORAD/PACAF Procedures for Control of Air Defense Aircraft

Section 1. General

4–1–1. POLICY
All FAA and air defense control facilities providing service to the military interceptor aircraft shall conduct operations in accordance with the policies and procedures in this chapter.

4–1–2. PROVISION OF ATC SERVICES
ATC facilities shall provide air traffic control services to air defense aircraft to preclude the exercise of air traffic control in the same airspace by two independent agencies. Coordination shall be accomplished in accordance with FAA Order 7110.65, Air Traffic Control, with the using agency prior to providing ATC services within Warning Areas.

4–1–3. FAA AND MILITARY APPROVAL REQUIRED
Required changes to these agreed upon procedures will be subject to approval by both FAA and military headquarters before effecting the change.
Section 2. Additional Requirements

4–2–1. WHEN NORAD/PACAF LEVELS OF OPERATION CHANGE

When the operating level of an air defense control facility (ADCF) changes as the result of equipment problems and the responsibility for air defense aircraft will be transferred to another facility (i.e., another ADCF, Military Radar Unit (MRU), or ARTCC/CERAP), the transferring unit will:

a. Inform the receiving facility of approved ATC assigned airspace in use to ensure an orderly transition of responsibility.

b. Provide the receiving facility with information concerning nonparticipating IFR traffic cleared by ATC to operate in the assigned airspace.

c. Inform the appropriate ARTCC/CERAP of the operational status change and, as necessary, request the ARTCC/CERAP to assume responsibility for interceptor aircraft.

d. Before changing levels of operation, ensure that pilots of aircraft under the authority of the transferring facility have received an appropriate ATC clearance or transfer of flight information has been accomplished with the receiving facility.

4–2–2. ALTITUDE INFORMATION

All altitude information shall be on the basis of a pilot report or validated Mode C whenever altitudes are to be used as a means of separation.

4–2–3. LETTERS OF AGREEMENT

Letters of agreement between Air Defense Sectors/Regions and ARTCC/CERAPs shall contain only those matters relating to local requirements, such as fixed ATC assigned airspace, common reference points, coded flight plans, flush procedures, reduced separation minima authorized for individual bases, etc. Procedures/policies contained in this part or other related documents will not be repeated.

4–2–4. WACS/NORAD SPECIAL FLIGHTS

NORAD has a requirement to position AWACS aircraft at selected locations on a time–critical basis. To the extent possible, these flights will utilize routes that have been precoordinated with the impacted ATC facilities. The identification “AWACS/NORAD Special” will be included in the remarks section of the flight plan. Allowable ATC control actions to avoid delays are specified in FAA Order 7110.65, Air Traffic Control.
Section 3. Defense Emergencies

4−3−1. DUTY STATUS

a. To ensure the carrying out of commitments in connection with the defense of the United States, follow instructions set forth below upon the declaration of an Air Defense Emergency, Defense Emergency, or implementation of the Security Control of Air Traffic and Navigational Aids (SCATANA) Plan.

NOTE−
The area manager will be advised immediately of any change of the alert condition by military command responsible. Authentication requirements and procedures for actual and test messages will be established by NORAD or the unified/specified command for his/her area of responsibility.

b. Personnel shall continue to operate those facilities which are essential in support of the defense effort, dispersing for protection where possible. Watch−standing personnel shall remain at their duty posts regardless of the condition of alert, environment permitting, or until it has been determined that the function of their facility is no longer essential.

c. The area manager shall dispatch watch−standing personnel who are not essential for positional staffing to the closest shelter when an attack is imminent or when radiological fallout is predicted to occur.

d. The area manager shall notify the air traffic manager and facility security officer immediately of any change of the alert condition.

e. Implement security measures within the facility.

f. Arrange for alternate means of communication, as required.
Section 4. Nuclear Detonation (NUDET) Reports

4−4−1. FORWARDING INFORMATION

Air traffic facilities shall forward information received on NUDETs by voice over interphone circuits as set forth below. Western Pacific and Alaskan Regions shall develop appropriate procedures to ensure dissemination of NUDET information to air traffic and air defense facilities within their geographic areas.

a. All approach control facilities, towers, and AFSS/FSSs shall forward information received or observed about nuclear detonations to the ARTCC/CERAP in whose area the facility is located.

b. Where communication is lost with the ARTCC/CERAP in whose area the aircraft is located, forward/relay the NUDET report to an adjacent ARTCC/CERAP.

c. ARTCC/CERAPs shall forward NUDET data and fallout predictions received from NORAD to the operating field facilities and adjacent ARTCC/CERAP where affected.

d. ARTCC/CERAPs shall forward NUDET/RADIATION data to the NORAD Region/Sector nuclear, biological, chemical operations cell (NBCOC) in which they are located.

4−4−2. FORMAT

a. Reporting facilities shall use the following format in reporting NUDET data to an ARTCC/CERAP and from an ARTCC/CERAP to a NORAD Region/Sector. In the case of an exercise NUDET, include the word “EXERCISE” as the last item in the report and precede the message with the name of the exercise.

b. CONTENT. EXERCISE...(if applicable). Type of event: (NUCLEAR or RADIATION). Date/time of event: (271200Z). Location of attack LAT/LONG: (3944N/8156W). Type of burst and yield, if known. If unknown, use 1MT or radiation reading in centiGrays per Hour (cGy/H). For example: air, surface, subsurface, or 1000 cGy/H increasing, (AIR, 1MT). Remarks (any information deemed relevant to the event). EXERCISE...

EXAMPLE—NUDET REPORT.− EXERCISE GONE GOOSE, NUCLEAR, 30/1200Z, 3944N8156W, SURFACE 1MT, HAVE LOST COMMUNICATIONS WITH ALL UNITS IN AREA, EXERCISE

RADIATION REPORT.− EXERCISE GONE GOOSE, RADIATION, 30/1200Z, 3944N8156W, 1000 cGy/H INCREASING, CONTAMINATION IS HEADING 270, EXERCISE

4−4−3. RETAINING DATA

ARTCC/CERAPs shall plot and retain NUDET and fallout data. All air traffic facilities will maintain current NUDET and fallout data for the information of operating personnel.

4−4−4. AVOIDANCE OF HAZARDOUS RADIATION AREAS

To protect air traffic from dangerous radiation, it is necessary to avoid, if possible, areas of radiation contamination since multiple exposures will accumulate to an incapacitating dosage.

4−4−5. GLASSEYE REPORTS

A GLASSEYE report is a visual airborne observation of nuclear detonation locations and damage assessment made by military and other government agency aircraft. All ATC facilities (FAA and military) with air/ground communications capability should be prepared to accept and relay reports.

a. Upon receipt of a GLASSEYE report, all ATC facilities shall forward the report to the appropriate ARTCCs who shall forward the report to the appropriate NORAD Region/Sector.

b. GLASSEYE reports will be received in the following format and shall be forwarded verbatim.

1. Item 1. Date/time (Z) of observation.

2. Item 2. Apparent ground−zero in latitude/longitude and place name if known.

3. Item 3. Damage (Radius in miles).

4. Item 4. Crater (yes, no, or unknown).

Section 5. Air Defense Liaison Officers (ADLOs)

4–5–1. REGION CONFIGURATION CHART
Air Defense regions are depicted in FIG 4–5–1.

4–5–2. ASSIGNMENTS

ADLOs, under the supervision of the Special Operations Division, ATP–200, may be assigned to NORAD Headquarters and to each CONUS NORAD Region/Sector.

a. The ADLO will operate as a member of the NORAD commander’s staff to which assigned.

b. NORAD Headquarters/NORAD Region/Sector, as appropriate, shall be officially notified prior to initial assignment or reassignment of an ADLO.

NOTE—
Normally, one ADLO will be assigned.

c. An ADLO may also provide assistance to other major military commands/services when so directed by ATP–200.

4–5–3. DUTIES WITH NORAD HEADQUARTERS OR NORAD REGION/SECTOR COMMANDER’S STAFF

As a member of the Commander’s staff, the ADLO shall:

a. Advise the Commander and his/her staff on the capabilities and limitations of FAA facilities and personnel with respect to NORAD/Air Division facilities, and represent the FAA on matters pertaining to the utilization of FAA services and facilities for peacetime operations and during air defense emergencies.
b. During an air defense emergency, serve as a member of the commander’s battle staff as liaison officer between the NORAD Headquarters to which assigned and the FAA.

c. Advise and assist appropriate members of the Commander’s staff, as required, in the preparation of NORAD/Air Division plans and programs for SCATANA, Aircraft Movement Information Service (AMIS), all war plans, programs, operations orders, regulations, and operational procedures which involve participation of FAA personnel or use of FAA facilities.

d. Participate in the development of air defense exercises planned at NORAD Headquarters/Regions or Sectors, including assistance in coordination with FAA facilities for the assignment of airspace to accommodate the exercise.

e. Prepare detailed instructions for the guidance of ARTCC/CERAPs for:

1. Forwarding AMIS data to Air Defense facilities as required.

2. The application of plans for SCATANA, both during peacetime and during an air defense emergency.

f. Facilitate required liaison between NORAD Headquarters/NORAD Regions/Sectors, FAA headquarters, regions, and ATC facilities, as appropriate, to aid in negotiating Memorandums of Understanding, Letters of Agreement and changes thereto, and resolving common problems between FAA and NORAD facilities pertaining to the movement of interceptors and application of the authorization for interceptor operations (AFIO).

g. Review the communications capability of the NORAD Sector to ensure that adequate voice page hot-line interphone circuits are available to permit rapid exchange of information between NORAD and FAA controllers. Coordinate with FAA offices on new communications requirements in accordance with FAA/NORAD/1st AF policies.

4–5–4. ADDITIONAL ADLO DUTIES WITH NORAD SECTORS

In cooperation with the commander’s staff, the ADLO shall:

a. Provide indoctrination and periodic follow–on briefings to assigned personnel concerning the interceptor and strike/target aircraft in the FAA ATC system, the related procedures including the FAA AFIO, the impact of air defense activities on the ATC system, and the attendant functions and responsibilities of both Air Defense and ATC facilities.

b. Determine the adequacy of the required equipment and proficiency of personnel authorized to control military aircraft in the ATC system or exercise the AFIO.

c. Assist in the design, development, and administration of training programs to qualify Air Defense Control Facility (ADCF) personnel in selected air traffic control procedures/practices necessary to efficiently interact with the air traffic control system.

d. Assist in correcting noted deficiencies in the application of FAA standards, policies, and procedures and in resolving real–time problems with ARTCCs as they occur.

e. Recommend action to correct equipment deficiencies, unsafe handling of aircraft, or deficiencies related to FAA delegated responsibilities or authority.

f. Assist the Faker Coordinator, the Faker monitor team, and the operations crew weapons teams in resolving problems occurring with ATC facilities during exercises.

g. Be present at, or return to, the ROCC/SOCC during increased air defense readiness conditions or as exercise conditions dictate.

h. Assist in the planning and development of air defense exercises and participate in the critique.

4–5–5. ACCESS TO ADCF

Access to an ADCF by FAA personnel shall be coordinated with the ADLO in advance. Any comments or recommendations of an operational nature that would result in changes to agreements shall be coordinated with ADLO.

4–5–6. CONVENE PERIODIC MEETINGS

Periodic meetings with air defense personnel shall be convened at both regional and field level to ensure recognition of changing military requirements and adequacy of ATC service.
Section 6. Interceptor Operations

4–6–1. DIVERSION TO ALTERNATE BASE

Upon receipt of information that interceptor aircraft will be diverted to an alternate base or will recover at other than the departure base, ADCFs shall forward pertinent information as soon as possible to the concerned ARTCC/CERAP or terminal facility for traffic planning purposes.

4–6–2. FAA RESPONSIBILITY

FAA ATC facilities providing radar advisory service to VFR aircraft shall alert them of the interceptor training activity in progress. The ATC facility shall advise the military facility if the pilot indicates that he/she will penetrate the ATC assigned airspace and transfer flight information, to the military controller and continue to provide radar advisory services if workload conditions permit.
Section 7. Control Instructions

4−7−1. CONTROL BY CANADIAN NORAD FACILITIES

Interceptors may be controlled over U.S. territory by Canadian NORAD facilities provided the operation is conducted within ATC assigned airspace. The AFIO cannot be applied by Canadian NORAD.

NOTE—It is recognized that certain Canadian NORAD facilities must have access to U.S. airspace as these facilities are an integral part of the defense posture for the North American Continent.

4−7−2. AGREEMENT BETWEEN FAA AND MILITARY

Agreements should be established between FAA regions/ARTCCs and appropriate military counterparts to ensure that the Canadian NORAD facilities can perform their mission.

4−7−3. TRANSFER CONTROL AT REQUEST OF ADCF

Interceptor aircraft shall be retained under ATC control as long as possible. ATC personnel shall not initiate action to transfer control to the ADCF except at the request of the ADCF or at a point previously established beyond which control by the ATC facility is no longer feasible. The control transfer point will normally be determined by the ADCF; however, ADCF personnel shall not request control jurisdiction of an interceptor aircraft until it reaches the point where control must be assumed to effect the air defense mission.

4−7−4. RELEASE OF AIRCRAFT TO THE ADCF

When an aircraft is not within FAA radar coverage but is under ATC jurisdiction, the aircraft may be released from the ATC frequency to the ADCF for traffic advisories. However, during this time, the ADCF shall not change the ATC clearance without ATC approval.

4−7−5. TIME OF TRANSFER OF CONTROL

Transfer of responsibility between ATC and ADCF shall be made at a time, fix, or altitude and only after elimination of any potential conflict with other aircraft under the jurisdiction of the transferring facility.

4−7−6. CONTROL JURISDICTION OF INTERCEPTOR AIRCRAFT

ATC facilities assume control jurisdiction of interceptor aircraft for return−to−base and recovery immediately after completion of the interceptor phase of the mission and when clear of all other aircraft under the control of the ADCF.

4−7−7. ACTIVE SCRAMBLES

Provide maximum assistance to expedite the movement of interceptors on active air defense missions until the unknown aircraft is identified.

a. The ADCF initiating the scramble shall identify the mission as an active air defense mission.

b. ATC services shall be used for active air defense missions insofar as the circumstances permit.

c. Upon request, ATC facilities shall expedite transfer of responsibility of the interceptor to the requesting ADCF.

4−7−8. INTERCEPTOR OPERATIONS BEYOND U.S. TERRITORIAL LIMIT

When interceptor and supporting aircraft; i.e., Long Range Defense Team (LRDT), are operating in CONTROLLED AIRSPACE beyond the territorial limit of the United States, ATC facilities shall apply standard ATC procedures. However, under certain conditions, air defense missions do not lend themselves to established ATC procedures. In those cases where ATC clearance is not issued, the operation will be conducted under the “due regard” concept contained in DOD FLIP for operating over the high seas.
a. Prior to authorizing “due regard” operations, the appropriate ADCF shall coordinate with the applicable ATC facility to obtain clearance and/or restrictions required for ATC separation of these aircraft from known IFR air traffic. If operation within the ATC system will derogate the mission, the ADCF shall inform the ATC facility concerned that operations will continue under “due regard.” This statement means that the ADCF is assuming responsibility for providing separation between the aircraft for which “due regard” is declared and all observed traffic. When aircraft are outside radar coverage of the ADCF, separation becomes the responsibility of the aircraft commander.

NOTE—An ATC clearance may be available for some of the mission aircraft, but not available for others.

b. Aircraft operating under the “due regard” concept are subject to one or more of the following conditions:

1. Aircraft shall be operated in visual meteorological conditions; or
2. Aircraft shall be operated within surveillance and radio communications of a radar facility; or
3. Aircraft shall be equipped with airborne radar that is sufficient to provide separation between themselves, aircraft they may be controlling, and other aircraft; or

4. Aircraft shall be operated outside controlled airspace.

4–7–9. SCRAMBLE AIRPORT LISTING

Air Defense Regions/Sectors shall provide the appropriate air ADLO/FAA region with the current listing of all airports from which active defense scrambles are authorized. Changes, additions, and/or deletions shall be provided as they occur.

4–7–10. ADC AIR DIVISIONS/FAA REGIONS COORDINATION

Headquarters, NORAD, will keep FAA regions currently informed of the augmentation forces/bases of other Commands/Services which may be employed. Changes, additions, and/or deletions, to include contingency operations, shall be provided.

4–7–11. ALERT FORCE EVALUATION (AFE)

The alert force evaluation is designed to test the response of the air defense alert force to a scramble order against a simulated unknown aircraft penetrating U.S. airspace. The alert force evaluation shall be coordinated with the appropriate air traffic control facilities. AFIO will not be invoked (see paragraph 4–12–3, Authorization and Use of AFIO). Military authority assumes responsibility for separation of aircraft (MARSA) applies between participating aircraft.
4–8–1. NORAD/PIAD FLUSH/DISPERSAL REQUIREMENTS

NORAD has a requirement to flush/disperse interceptor and E–3 aircraft to initiate early attack against a hostile force, to enhance their survival, and to provide sufficient testing of the flush operations. To assure optimum reaction effectiveness of air defense units, these tests may be conducted in conjunction with exercise or evaluations during IFR or VFR conditions and may be scheduled by the NORAD Commander or his/her designated representative.

4–8–2. CONDUCT OF OPERATIONS

ADCFs and ATC facilities providing flush and/or dispersal service to interceptor/E–3 and aircraft of the NORAD force shall conduct these operations in accordance with an air traffic control clearance.

4–8–3. LETTER OF AGREEMENT

Flush/dispersal procedures shall be set forth in a letter of agreement.

4–8–4. PRIOR NOTIFICATION

The military agency ordering a flush/dispersal operation shall notify the ARTCC/CERAP and appropriate terminal facility at least 1 hour in advance of the exercise or in accordance with the time specified in the letter of agreement. ATC facilities shall not inform interceptor squadrons or air defense sector personnel of this prior notification.

4–8–5. “EXERCISE FLUSH”

The phraseology for testing flush operations is “Exercise Flush.”

4–8–6. “FLUSH”

The phraseology for actual flush operations is “FLUSH.”
Section 9. Air Defense Aircraft Emergency Procedures

4–9–1. ARTCC/CERAP CONTROL OF AIR DEFENSE AIRCRAFT

If a known Air Defense aircraft under the control of an ARTCC/CERAP is believed to be in an emergency situation, or that an emergency situation is imminent, the ARTCC/CERAP shall apply the following procedures in addition to those contained in FAA Order 7110.65, Air Traffic Control:

a. Notify the appropriate ADCF of the nature of the emergency and position of the aircraft. Keep the ADCF advised of the progress of the emergency, request ADCF assistance, if required, and advise the ADCF upon termination of emergency.

b. Immediately alert the direction–finding net.

c. Notify the ATC facility at the intended recovery base of the nature of the emergency, the intended recovery operation, and request that radar navigational assistance be provided until the aircraft has the runway in sight or landing is assured.

d. If radar contact is lost and radar identification cannot be reestablished, consistent with the nature of the emergency, immediate consideration should be given to the following:

1. Advise the appropriate ADCF and request assistance. The ADCF will monitor and provide assistance as requested. While an aircraft is under the control of an ARTCC/CERAP, the ADCF responsible for monitoring the progress of an emergency will serve as a “focal point” for the exchange of information with the ARTCC/CERAP.

2. Provide air traffic control clearances or instructions to the aircraft through an ADCF or other facility having radar and radio contact with the aircraft. Assign airspace to the ADCF, if practicable, to facilitate handling of the aircraft.

3. Use of 243.0 MHz for the purpose of direction finding or possible assistance by other radar facilities.

4. Order termination of EA/chaff activities if appropriate.

4–9–2. ADCF CONTROL OF AIR DEFENSE AIRCRAFT

If an aircraft under the control of an ADCF is believed to be in an emergency situation, or that an emergency situation is imminent, the following procedures shall apply:

a. The ADCF shall notify the appropriate ARTCC/CERAP and other concerned ADCF’s of the emergency, keep them informed of the progress of the emergency, including aircraft position and pilot/ADCF intentions, and request assistance as necessary.

b. Immediately alert the direction–finding net, when appropriate, through the appropriate ARTCC/CERAP.

c. The ARTCC/CERAP and other concerned ADCF’s shall monitor and provide assistance as requested.

d. The ADCF responsible for the control of the aircraft shall serve as “focal point” for the exchange of information with the ARTCC/CERAP.

e. If appropriate, notify the ATC facility at the intended recovery base giving the nature of the emergency and intended recovery operation.

f. If radar contact is lost and radar identification cannot be reestablished, consistent with the nature of the emergency, immediate consideration should be given to the following:

1. Advise the appropriate ARTCC/CERAP/ADCF and request assistance.

2. Relinquish control of the aircraft as soon as practicable to the Air Traffic control facility having radar and radio contact.

3. Use 243.0 MHz for purposes of direction finding or possible assistance by other radar facilities.

4. Order termination of EA/chaff activities if appropriate.

4–9–3. USE OF TERM “EMERGENCY CALL”

To ensure prompt response to a voice page hot line transmission concerning an emergency, preface the call–up with “Emergency Call.”
Section 10. Flight Plans

4–10–1. PREFILED AND ABBREVIATED FLIGHT PLANS

Flight plans prefilled with ATC facilities shall be used for such operations as planned tactical deployments, tests of turnaround bases, and flush requirements. If unplanned deployments become necessary for exercise purposes, maximum coordination shall be effected with ATC facilities to obtain departure times consistent with the urgency of the mission.

4–10–2. DAILY TRAINING MISSIONS

For daily training missions, abbreviated flight plans may be filed with ATC facilities for interceptor and strike aircraft operating to or from the airspace in which the training is to be conducted. Abbreviated flight plans must contain information deemed essential to both FAA and Defense Command agencies at the local level.
Section 11. Scramble/Airborne Orders

4–11–1. SCRAMBLE ORDERS

Air Defense Control Facilities (ADCF) shall immediately notify the appropriate terminal air traffic control facilities as specified in a letter of agreement when a scramble is ordered and accomplish the following actions:

a. Active air defense missions shall be so identified.

b. A flight plan containing the following information shall be filed:
   1. Flight call sign.
   2. Number and type of aircraft/equipment suffix.
   3. Departure point.
   4. Proposed departure time or the word “immediate.”
   5. Heading.
   6. Altitude.
   7. Duration of flight.
   8. Remarks–Frequency, type of climb, ADCF, desired transfer point.
   9. Any other information required by ATC facilities.

c. Facilities, both FAA and military, receiving these flight plans from an ADCF shall ensure that the necessary information is relayed to other affected terminal facilities and to the air route traffic control center (ARTCC) if ARTCC procedures are involved.

4–11–2. INFORMATION FURNISHED TO ATC FACILITY

The Air Defense Control Facility (ADCF) shall furnish the following information to the appropriate ATC facility at least 5 minutes prior to the time return–to–base will begin.

a. Call sign and type of aircraft/equipment suffix.

b. Number of aircraft.

c. Distance and bearing in relation to or estimated time over a common reference point.

d. Transfer altitude and destination.

e. Route of flight.

f. Special handling requirements, such as fuel, etc.

4–11–3. AIRBORNE ORDERS

The ADCF shall file airborne orders with en route and/or terminal facilities, as appropriate, as early as possible. Flight plan information shall include the following:

a. Call Sign.

b. Number and type of aircraft/equipment suffix.

c. Departure point.

d. Proposed departure time.

e. Heading.

f. Altitude.

g. Route of flight including.
   1. Departure route.
   2. Route to a fix serving the operating area (ATC assigned airspace/warning area).
   3. Route from a predetermined fix to destination.
   4. Frequency.
   5. MARSA when applicable.
   6. Aircraft with whom MARSA applies.

NOTE–
Coded routes may be filed substituting the appropriate code number for items c, f, and the applicable sub–elements of item g in this paragraph.
Section 12. FAA Authorization for Interceptor Operations (AFIO)

4–12–1. AUTHORIZATION FOR INTERCEPTOR OPERATIONS

The FAA AFIO, as published in Appendix 16, Memorandum of Understanding (MOU) Between the Federal Aviation Administration (FAA) and North American Aerospace Defense Command (NORAD) on Intercept Procedures, of this Order, provides for the conduct of active air defense intercept missions in the interest of the national security when such missions cannot be conducted within the ATC system.

4–12–2. CHANGING MILITARY OR ATC REQUIREMENTS

Changing military or ATC requirements and capabilities noted by ATC or NORAD personnel which would require notification, revision, or cancellation of the AFIO shall be brought to the attention of FAA Headquarters, ATP–200.

4–12–3. AUTHORIZATION AND USE OF AFIO

Authority is granted Commander in Chief, NORAD (CINC NORAD), to operate interceptors subject to the conditions and in compliance with the responsibilities and standard operating procedures set forth in this Section and Appendix 16. In cases where interceptors operate under AFIO and deviate from an ATC clearance, it must be emphasized that a National Security threat assessment dictates a higher assumed risk level so that a successful intercept occurs.

4–12–4. AFIO SUSPENSION

The Director, Air Traffic Planning and Procedures (ATP–1) shall modify, revise, or cancel in part or in whole this Authorization as necessary to meet changing requirements. In addition, ATP–1 shall take appropriate actions to modify, revise, or cancel this Authorization upon determination that immediate action is necessary to alleviate unsafe conditions.

4–12–5. DECLARATION OF AFIO

NORAD interceptors will operate under ATC control unless AFIO is declared. In cases where a competent military authority determines the threat posed by a Track of Interest (TOI) warrants interceptors deviating from an ATC clearance, interceptors will notify ATC and then maneuver as required to ensure successful TOI intercept. The team concept dictates the competent military authority notifies ATC when AFIO is invoked. In cases where interceptors operate under AFIO and deviate from an ATC clearance, it must be emphasized that a National Security threat assessment dictates a higher assumed risk level so that a successful intercept occurs.

NOTE– The Air Defense Control Facility (ADCF) will normally act as the competent military authority within the NORAD chain of command. CINC NORAD, when National Security assessments dictate, may authorize others in the NORAD chain of command to act as the competent military authority.

4–12–6. AIR TRAFFIC CONTROL RESPONSIBILITIES

a. ATC facilities shall:
   1. Provide ATC priority to interceptors engaged in an active air defense mission.
   2. When interceptors are under ATC control, provide standard air traffic control services. Standard separation shall be applied.
   3. Upon interceptor request and workload permitting, provide traffic information on other known aircraft that are between the interceptor and the TOI.
   4. Provide the most direct clearance to the TOI.

NOTE– Unless otherwise informed, once the interceptors communicate the TOI is intercepted, ATC facilities should expect the interceptors to operate within a 5 mile radius and plus/minus 2 thousand feet vertical of the TOI.

5. Provide interceptors and ADCF with anticipated delays, restrictions, etc., which may affect mission success if unable to comply with provisions 1 thru 4.

b. When it is determined that operations within the ATC system will delay the intercept of a TOI affecting National Security, the competent military authority may declare “AFIO.” Upon declaring
“AFIO,” NORAD assumes responsibility for interceptors seeing and avoiding all known aircraft and ensuring safe intercept conduct. ATC facilities will continue to provide the following air traffic services:

1. Traffic advisory services to the interceptors and all other affected aircraft, EXCLUDING the TOI.

2. “Point out” information to affected ATC sectors and/or ATC facilities.

**NOTE—** Interceptors deviating from ATC clearance may lose the positive radar separation normally provided between interceptors and all other aircraft.

c. Except when air safety is the primary consideration, every precaution shall be taken to prevent the TOI from gaining knowledge that an intercept mission is being conducted.

d. When requested by NORAD, ATC facilities shall provide documentation on delays/restrictions affecting mission success through FAA ATP–200 to CINCNORAD.

4–12–7. USE OF MODE 3/A CODE 7777 UNDER AFIO

When interceptor operations are to be conducted under the terms of the AFIO, the controlling ADCF shall so advise interceptor pilots and instruct them to adjust transponders to reply on Mode 3/A Code 7777.

4–12–8. MONITOR CODE 7777 WHEN THE AFIO IS EMPLOYED

For the purpose of facilitating identification, transfers, and providing traffic information to intercept directors to the extent possible, ATC facilities are encouraged to monitor Mode 3/A Code 7777 whenever the AFIO is being employed.

4–12–9. ADCF RESPONSIBILITIES

a. ADCFs shall:

1. Comply with the ATC facilities notification requirements as outlined in FAAO 7610.4, Chapter 4, Section 11, Scramble/Airborne Orders.

2. Provide and/or confirm with ATC facilities the TOI location and/or the designated Combat Air Patrol (CAP) location the interceptors are proceeding to as soon as possible.

3. Establish and maintain two–way radio communications and radar identification of interceptors to the maximum extent possible within systems capabilities.

4. Within the NORAD chain–of–command, act as the competent military authority responsible for determining and invoking AFIO.

5. Immediately inform appropriate ATC facilities of interceptor deviations invoked under AFIO and ensure interceptor/ADCF intentions, including call signs, are passed to ATC.

6. Notify interceptors when AFIO is invoked.

b. When requested by the FAA, ADCFs shall provide documentation of AFIO invocation through CINCNORAD to FAA Headquarters.

4–12–10. INTERCEPTOR RESPONSIBILITIES

a. Interceptors shall:

1. Obtain an appropriate air traffic clearance prior to departure.

2. Adhere to the scramble procedures as contained in the appropriate letters of agreement unless otherwise cleared by ATC.

3. Maintain two–way communications with the appropriate Air Traffic Control facility.

4. Advise the controlling facility of adverse weather conditions affecting the intercept.

5. Comply with ATC facility instructions unless the competent military authority invokes AFIO.

   (a) Inform appropriate ATC facilities when AFIO is invoked.

   (b) Use all on board systems to maintain separation from other known aircraft.

6. Advise ATC when the TOI has been acquired by onboard systems and/or visual contact has been achieved.

7. Notify the ATC facility when the TOI has been intercepted (established within a 5 mile radius and plus/minus 2 thousand feet vertical of the TOI). Remain within this airspace or notify the ATC facility if unable to comply.

8. Ensure separation from the TOI.

9. Inform ATC of active air defense mission termination by stating “AFIO terminated” and revert to standard ATC procedures upon active air defense mission termination.
Chapter 5. Aircraft Movement Information Service (AMIS)

Section 1. Scope

5−1−1. PURPOSE
This chapter establishes standard operating requirements, responsibilities, procedures, and methods for personnel engaged in providing AMIS.

5−1−2. APPLICABILITY
Procedures defined herein are applicable to all facilities providing AMIS. In areas not under the jurisdiction of Commander in Chief, North American Aerospace Defense Command (CINC NORAD), the Commander in Chief of the appropriate military command shall be substituted for CINC NORAD; e.g., the Commander in Chief, Pacific Air Forces (CINC PAC). Substitute the designated subordinate command for NORAD, as appropriate, where such reference appears in this chapter.

5−1−3. NATIONAL REQUIREMENTS
AMIS requirements which have national application are to be submitted by Headquarters NORAD, through Headquarters Air Force Flight Standards Agency (AFFSA), to FAA Headquarters, ATP−1, in sufficient time so that agreement concerning these requirements can be determined at least 90 days before the proposed implementation date. Upon determining the FAA's capability to satisfy these requirements, procedures necessary to meet these requirements will be published in this order. AMIS requirements of an emergency nature may be forwarded to the FAA later than the provisions set forth below.

5−1−4. LOCAL REQUIREMENTS
Submit AMIS requirements which do not have national application to the appropriate FAA regional division manager through the Air Defense Liaison Officer (ADLO). (See paragraph 5−2−2, Coordination with ADLO.)
Section 2. Regional Office/Air Defense Liaison Officer (ADLO) Responsibilities

5–2–1. DEVELOPMENT
The development of supplements shall be dictated by existing local conditions such as equipment, personnel, facilities, communications, and economic considerations as well as specific details of the requirements for AMIS.

5–2–2. COORDINATION WITH ADLO
FAA regional offices, in conjunction with the appropriate ADLO, shall be responsible for coordinating, developing, and revising AMIS supplements with other FAA regional offices and/or NORAD/PIAD Regions/Sectors, as appropriate, to define AMIS procedures which are not national in scope or contained in this order.

5–2–3. COORDINATING WITH MILITARY AUTHORITY
In areas where ADLOs are not assigned, regional offices shall be responsible, in conjunction with the appropriate military authority, for preparation of supplements.

5–2–4. SIGNATURE
Supplements shall be signed by the appropriate FAA Air Traffic division manager and NORAD/PIAD Region/Sector Commander or their designated representatives.

5–2–5. CONTENT
Supplements shall include at least the following:

a. Correlation areas for levels of operation situations and the corresponding correlation line/fix with respect to which aircraft movement information shall be forwarded to the NORAD/PIAD air defense facilities.

b. NORAD/PIAD air defense facilities to which aircraft movement information is to be routed by the ARTCC/CERAP.

NOTE—The USAF provides to the FAA ADLO certain current listings of air defense facilities for which AMIS is required.

c. Appropriate correlation lines/fixes for NORAD special interest flights.


5–2–6. DISTRIBUTION

a. Distribute supplements to the following:
   1. FAA facilities as appropriate.
   2. NORAD/PIAD Region/Sector air defense facilities, as required, by the appropriate ADLO.

b. In addition, forward copies of supplements as follows:
   1. One copy—Air Traffic Planning and Procedures Program, ATP–1
      Federal Aviation Administration
      800 Independence Avenue, S.W.
      Washington, DC 20591
   2. One copy—NORAD/PIAD Region Commander concerned.
   3. One copy—FAA ADLO Headquarters NORAD
      Peterson AFB, CO 80914–5001.
   4. One Copy—HQ NORAD/J30G
      Peterson AFB, CO 80914–5002

5–2–7. STAFFING AMIS POSITIONS
FAA regional offices should study the AMIS program on a continuing basis to determine the need for an increase or decrease in staffing AMIS positions of operation in facilities providing this service. When defense requirements dictate a change in staffing, forward this request to FAA Headquarters, ATP–1, for consideration.

NOTE—Normally, AMIS operations contained in supplements are not considered justification for an increase in staffing.
Section 3. Tower/RAPCON/RATCF/FACSFAC/FSS Responsibilities

5–3–1. FORWARDING INFORMATION
Personnel in towers, radar approach control facilities associated with the U.S. Air Force (RAPCONs), radar air traffic control facilities associated with the U.S. Navy (RATCFs), fleet area control and surveillance facilities (FACSFACs), and automated flight service stations/flight service stations (AFSS/FSSs) shall forward specific information dealing with flight plans, position reports, penetration reports, departure times, and other information on aircraft that propose to operate or are operating within the ADIZ to the appropriate ARTCC/CERAP that provide AMIS.

5–3–2. SECURITY CONTROL OF AIR TRAFFIC

a. The procedures herein relating to security control of air traffic are in addition to and do not alter those set forth elsewhere for the normal handling of IFR and VFR movement and control data.

b. Personnel shall be familiar with these procedures, 14 CFR Part 99, and other documents relating to the security control of air traffic issued by the ARTCC/CERAP concerned.
Section 4. ARTCC Responsibilities

5–4–1. SECURITY CONTROL OF AIR TRAFFIC
Personnel shall be familiar with the provisions set forth herein, 14 CFR Part 99, and other documents relating to the security control of air traffic.

5–4–2. EXCEPTIONS TO FURNISHING AMIS
ARTCC/CERAPs shall furnish AMIS on all known aircraft which operate in an ADIZ on a track towards the United States, regardless of the point of departure, except when:

a. Aircraft are operating at a true airspeed of less than 180 KTS in the Hawaii ADIZ or over any island, or within 3 NM of the coastline of any island, in the Hawaii ADIZ; or

b. Aircraft are operating at a true airspeed of less than 180 KTS in the Alaska ADIZ while the pilot maintains a continuous listening watch on the appropriate frequency; or

c. Aircraft are operating at a true airspeed of less than 180 KTS in the Guam ADIZ; or

d. Alternate procedures are agreed to by the FAA and military commanders concerned.

NOTE—AMIS shall be furnished on aircraft penetrating within the Southern Border Domestic ADIZ and western portion of the Gulf of Mexico Coastal ADIZ per mutual agreement between the FAA Southwest Region and the Southeast and the Western Air Defense Sectors, respectively.

5–4–3. SPECIAL INTEREST FLIGHTS

a. ARTCC/CERAPs shall furnish AMIS on NORAD Special Interest flights, regardless of the direction of flight or whether the flight is conducted within an ADIZ.

b. ARTCC/CERAPs shall transmit AMIS on aircraft as set forth in supplements.

5–4–4. FACILITY DIRECTIVES
ARTCC/CERAPs shall develop facility directives prescribing detailed internal procedures necessary for the expeditious and efficient transmission of applicable aircraft movement information to NORAD/PIAD air defense facilities. Facility directives shall include at least the following:

a. Methods to be used in acquiring, processing, and disseminating the appropriate IFR and DVFR aircraft movement information to NORAD/PIAD air defense facilities.

b. Methods to be used in determining, from available flight plans and flight progress strips:

1. The penetration point and the estimated time over the penetration point of the appropriate correlation line or fix.

2. The predetermined reporting point and the estimated time over such a point.

3. Revisions to any of the foregoing.

5–4–5. MONITOR/ANALYZE AMIS
ARTCC/CERAPs shall monitor the AMIS program, analyze all AMIS errors and system inadequacies, and assure that the responsibilities of the FAA are being met to the maximum of system capability.

5–4–6. AMIS UNKNOWN/INTERCEPT LOGS
ARTCC/CERAPs shall be responsible for producing their supply of AMIS Unknown/Intercept Logs and the ROCC/SCOC data communication message format.

5–4–7. EMERGENCY AMIS
Upon the declaration of an Air Defense Emergency or Defense Emergency or the implementing of any of the provisions contained in the SCATANA plan by CINCNORAD or the NORAD/PIAD Region/Sector Commander, ARTCC/CERAPs shall modify AMIS to the degree necessary to conform to specific instructions received from the NORAD/PIAD Region/Sector Commander. In the absence of any modifying instructions, continue to provide AMIS in accordance with procedures in effect before the development of the emergency condition.

5–5–1. AMIS WITHIN AN ADIZ–IFR

In addition to the normal handling of aircraft operating in accordance with IFR, ADIZ penetration information or position reports on IFR operations outside of CONTROLLED AIRSPACE shall be forwarded immediately to the appropriate ARTCC/CERAP.

5–5–2. AMIS WITHIN AN ADIZ–DVFR

For security control of air traffic, specific information contained in flight plans filed by a pilot operating or proposing to operate in accordance with DVFR within an ADIZ shall be forwarded to the appropriate ARTCC/CERAP.

NOTE—
Other offices, military and civil, which have direct communications with the appropriate ARTCC/CERAP are permitted to forward DVFR flight plan data directly to the ARTCC/CERAP. When pilots require normal handling of VFR flight plans, these offices are permitted to file a VFR flight plan with the FSS and a DVFR flight plan with the ARTCC/CERAP.

5–5–3. FORWARDING DVFR INFORMATION

Forward DVFR flight plan information to the appropriate ARTCC/CERAP by Service F interphone or NADIN data communication circuit as follows:

a. Aircraft call sign.
b. Number of aircraft.
c. Type of aircraft.
d. DVFR discrete transponder code, if assigned.
e. Altitude (within ADIZ).
f. True airspeed.
g. Time of departure.

1. When the flight plan information is provided before the aircraft’s departure, forward the proposed departure time.
2. Forward the actual departure time immediately upon receipt.
3. If arrangements cannot be made to obtain the actual departure time, forward the ETD.

h. Point of departure.
i. Route of flight.
j. Destination.
k. Remarks as appropriate.

1. The estimated time and point of penetration of the ADIZ.
2. If no arrival report (NORIV) will be filed with an appropriate aeronautical facility, include the abbreviation “NORIV.”

NOTE—
Arrival reports are not required for scheduled air carrier DVFR flights.

3. DVFR position reports on all aircraft.
4. Revisions to position reports, revisions to time or place of penetration, and change in route of flight.
5. Other information deemed necessary for the security control of air traffic.

NOTE—
Regardless of radar contact status, aircraft must be instructed to remain on the assigned DVFR code until the DVFR flight is no longer required.

5–5–4. STOPOVER DVFR FLIGHT PLANS

Accept stopover DVFR flight plans filed on those aircraft planning one or more landings en route to the destination, provided the information in paragraph 5–5–3, Forwarding DVFR Information, is furnished for each segment of flight. Remind the pilot that 14 CFR Part 99 requires departure times to be made good and that he/she should retain a written record of these times at each departure point.

5–5–5. ADDRESSING DVFR FLIGHT PLAN MESSAGES

Route and address DVFR flight plan information (see paragraph 5–5–3, Forwarding DVFR Information) to the ARTCC/CERAP in whose flight advisory area penetration of an ADIZ is intended unless special arrangements provide otherwise.
### a. Contiguous U.S. ADIZ:

<table>
<thead>
<tr>
<th>Service B Call</th>
<th>ARTCC Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZLA</td>
<td>Los Angeles</td>
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<tr>
<td>ZAB</td>
<td>Albuquerque</td>
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<tr>
<td>ZHU</td>
<td>Houston</td>
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<td>ZMA</td>
<td>Miami</td>
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<tr>
<td>ZJX</td>
<td>Jacksonville</td>
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</tbody>
</table>

### b. Alaskan ADIZ:

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<tr>
<th>Service B Call</th>
<th>ARTCC Location</th>
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<tbody>
<tr>
<td>ANC</td>
<td>Anchorage</td>
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### c. Hawaiian ADIZ:

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<thead>
<tr>
<th>Service B Call</th>
<th>ARTCC Location</th>
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<tbody>
<tr>
<td>HNL</td>
<td>Honolulu</td>
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</table>

### d. Canada–Routing DVFR Flight Plan Messages to Canada:

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<tr>
<th>Service B Call</th>
<th>ARTCC Location</th>
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</table>

Compose DVFR messages pertaining to aircraft operating on a DVFR flight into Canada in the same format as for DVFR messages in the U.S., addressed and routed to the appropriate trans-border, tie-in station.
Section 6. Information Dissemination

5–6–1. ADIZ INFORMATION

Aircraft movement information on aircraft penetrating the outer boundary of an ADIZ on a track towards the United States and on aircraft other than those specified in paragraph 5–7–1, CAT TRACK Flights, operating within an ADIZ on a track toward the United States shall be forwarded to ROCC/SOCC facilities in accordance with the following:

a. Transmit aircraft movement messages by ROCC/SOCC data communication equipment.

b. Convert the flight plan to the ROCC/SOCC format (see Section 10 of this chapter) and all correlation points to latitude and longitude coordinates.

c. Check aircraft movement messages converted to the ROCC/SOCC format for accuracy before transmitting.

d. If data communication equipment is not available:

1. Forward aircraft movement messages in the same sequence as the ROCC/SOCC data communication format and transmit by telephone to ADCF ID section except as provided in a supplement.

2. Aircraft movement information concerning flights on Federal airways may be forwarded based on radio fix estimates or reports when so specified in the appropriate supplement.

5–6–2. INITIAL AIRCRAFT MOVEMENT MESSAGES

AMIS controllers shall transmit initial aircraft movement messages to air defense facilities when one of the following conditions exists:

a. Aircraft will penetrate a domestic ADIZ at least 30 minutes but not more than 6 hours before the estimated time of penetration or crossing of a correlation fix/line as established in a local supplement.

b. Aircraft will penetrate a coastal ADIZ:

1. At least 20 minutes or as soon as practicable after receipt of flight plan but not more than 6 hours before estimated time of penetration or crossing of a correlation fix/line as established in a local supplement.

2. When aircraft are operating on published oceanic routes:

(a) After the aircraft has reported crossing an established correlation fix specified in a supplement.

(b) At the time the aircraft was estimated to cross such a fix when a position report has not been received.

c. As soon as practicable when the point of aircraft departure does not permit compliance with the time limits specified above.

5–6–3. AIR DEFENSE FACILITY REQUEST FOR TRANSMISSION

ARTCCs will not be requested to re–transmit AMIS data previously forwarded to an Air Defense Control Facility (ADCF) due to ADCF expansion programs. The expanding ADCF will obtain an AMIS update from the “out of service” military radar facility.

5–6–4. NAVY FLIGHT PLANS

Transmit flight plans for certain Navy flights which do not describe the entire route of flight within the ADIZ to the air defense facility exactly as received.

NOTE–

1. FAA accepts no responsibility for checking the coding against classified data to ensure that the coded information is compatible with the uncoded portions of the flight plan.

2. FAA accepts no responsibility for transmitting such information to the appropriate air defense facilities.

5–6–5. SUPPLEMENTAL IDENTIFICATION DATA

All information from the ARTCC/ATC facility regarding identification of an “unknown” shall be passed directly to the ID Section of the ROCC/SOCC.
5–6–6. INTERPHONE LINE CHECK
At the close of each day, AMIS sector controllers shall call each ROCC/SOCC by interphone to conduct an interphone line check.

5–6–7. TEST ROCC/SOCC MESSAGE
AMIS sector controllers shall transmit a test ROCC/SOCC data communication message when requested by the ROCC/SOCC.
Section 7. Special Interest Reporting

5–7–1. CAT TRACK FLIGHTS

Provide AMIS direct to air defense facilities via voice circuits on all IFR aircraft classified as NORAD Special Interest flights, and on those flights specified in paragraph 5–9–4, Marking Flight Progress Strips.

a. Departing or operating in the conterminous United States defense area.

b. Operating in an ADIZ providing the aircraft will not penetrate the outer boundary of the ADIZ and radar service procedures are in effect for the entire period of the operation.

c. To accommodate the above procedures, AMIS supplements shall include at least:

1. Air navigation aids, common reference points, or correlation lines to be displayed on NORAD radar scopes;

2. ARTCC sector boundaries and telephone numbers; and

3. Air defense facility areas of responsibility and telephone numbers.

NOTE—Where direct communications between FAA ARTCC/ CERAPs and NORAD facilities are not available, CAT TRACK data will be forwarded via General Purpose Defense Switching Network (DSN).

5–7–2. DEPARTURES WITHIN NORAD RADAR COVERAGE

AMIS data provided in accordance with paragraph 5–7–1, CAT TRACK Flights, shall be forwarded as soon as practicable after departure on all aircraft which depart within an area of NORAD radar coverage by furnishing:

a. Where FAA radar coverage is available:

1. “CAT TRACK.”

2. Position in relation to air navigation aids or common reference points depicted on FAA/ NORAD radar scopes.

3. Heading.

4. Identification.

5. Number of aircraft.

6. Type of aircraft.

7. Altitude.

8. SCATANA wartime air traffic priority (when appropriate).

NOTE—

1. This information need not be provided immediately after departure when it will ease the work load by waiting until the aircraft is outside an area of traffic congestion.

2. When providing radar position identification, avoid use of the term “Radar Hand-off.”

b. When FAA radar coverage is not available:

1. “CAT TRACK.”

2. Last known position/estimate and next reporting position.

3. Identification.

4. Number of aircraft.

5. Type of aircraft.

6. Altitude.

7. SCATANA wartime air traffic priority (when appropriate).

5–7–3. DEPARTURES OUTSIDE NORAD RADAR COVERAGE

Provide identification, departure time, departure base, and ETE on all NORAD Special Interest flights which depart from airfields not having NORAD radar coverage and which will not penetrate areas of NORAD coverage. In addition, provide AMIS data in accordance with paragraph 5–7–2, Departures within NORAD Radar Coverage, on all flights which depart from airfields not having NORAD radar coverage and subsequently penetrate an area of NORAD radar coverage.

5–7–4. RADAR IDENTITY LOST

When radar identity is lost within the air defense system, reidentify, upon request, aircraft operations specified in paragraph 5–7–1, CAT TRACK Flights, in accordance with paragraph 5–7–2, Departures within NORAD Radar Coverage, as appropriate. The air defense facility will furnish the aircraft call sign in lieu of the NORAD Special Interest code.

5–7–5. AMIS FOR OTHER SPECIFIC FLIGHTS

Provide AMIS in accordance with subparagraphs 5–7–2a and b, as appropriate, only when
requested by the air defense facility on other specific flights (which simulate aircraft airborne at the time a national emergency is declared) as agreed between the ARTCC/CERAP and the air defense facility.

NOTE—
This procedure should be used frequently enough to develop an FAA/NORAD capability to identify all aircraft airborne at the beginning of an emergency condition. Air defense facilities will not ask for specific command aircraft; e.g., Tactical Air Command, but may ask for type of aircraft; e.g., fighter, bomber, B707. They may also ask for service aircraft; e.g., United States Air Force.

5–7–6. WITHHOLDING AIRCRAFT MOVEMENT INFORMATION

Except as provided in subparagraph a, do not give aircraft movement information to any air defense radar facility when the abbreviation “NOPAR” is included in the flight plan. When “NOPAR” is followed by specified sites or areas, withhold this information only from those locations specified. The provisions of subparagraph a, do not apply when a NORAD Region/Sector is being evaluated and NORAD has precoordinated with the ADLO and the applicable ARTCCs to have aircraft movement information withheld on a specific flight.

a. Upon receipt of a specific request from the NORAD Region/Sector to pass aircraft movement information which has the abbreviation “NOPAR” in the flight plan, the ARTCC/CERAP controller shall acknowledge the request, immediately call back and ask for the Exercise Controller/Trusted Agent to confirm the request. Upon receipt of confirmation, such data shall be forwarded immediately to the air defense facility specified by the Exercise Controller/Trusted Agent. Forwarding of such data shall continue for such time as the NORAD Region/Sector may indicate.

b. Upon a specific request from the ADLO, ARTCC/CERAP controllers shall forward to the requesting ADLO, aircraft movement information on aircraft even though the “NOPAR” abbreviation is included in the flight plan.

5–7–7. AIR DEFENSE EXERCISE FLIGHT PROGRESS STRIPS

When a flight plan is received from a military agency with the abbreviation “NOPAR” in the Remarks section of the flight plan, FAA air traffic control personnel shall insert an asterisk (*) immediately preceding the aircraft identification or mission nickname; e.g., *V1234, on all flight progress strips prepared for the aircraft/mission as appropriate. Except as provided in subparagraph 5–7–6a, FAA air traffic control personnel shall not forward any information to air defense radar facilities on flights having the abbreviation “NOPAR” in the flight plan or when an asterisk is inserted immediately preceding the identification of the aircraft/mission on the flight progress strip.

5–7–8. PRESIDENTIAL AIRCRAFT

AMIS shall be provided for aircraft transporting the President and the Vice President as set forth below:

a. Aircraft movement messages for aircraft transporting the President or the Vice President of the United States shall be transmitted by the AMIS controller to the appropriate NORAD air defense facilities along the route of flight.

b. Flight plans shall be transmitted in accordance with AMIS procedures.

c. Aircraft shall be identified in accordance with FAA Order 7110.65, Air Traffic Control.
Section 8. Violations of ADIZ Regulations  
(14 CFR Part 99)

5–8–1. UNKNOWN RADAR TRACK
AMIS controllers shall take the actions listed in paragraph 5–8–2, Check Data at Hand, and paragraph 5–8–3, Forward Known Aircraft Data to NORAD, when a NORAD/PIADR air defense facility advises that an unknown radar track exists within the air defense system.

NOTE—
The NORAD/PIADR air defense facility is expected to furnish information on the time, aircraft position coordinates, altitude, speed, heading, and possible identification relating to the unknown radar track.

5–8–2. CHECK DATA AT HAND
AMIS controllers shall check flight progress strips and other sources of information for aircraft operating within the area in which the unknown is reported.

5–8–3. FORWARD KNOWN AIRCRAFT DATA TO NORAD
AMIS controllers shall forward to the NORAD air defense facility aircraft movement information available within the ARTCC/CERAP on aircraft operating within the area in which the unknown radar track is reported when such information is requested by the NORAD air defense facility.

NOTE—
When the NORAD air defense facility is unable to correlate the unknown radar track with the additional information, an intercept can be ordered by the NORAD air defense facility to identify the aircraft. When an intercept is executed to identify the unknown radar track, the NORAD air defense facility is expected to furnish information on the time of intercept, aircraft position coordinates, altitude, speed, heading, and identification of the aircraft intercepted.

5–8–4. DETERMINE CAUSE FOR UNKNOWN RADAR TRACK
When an unknown radar track has been reported or an intercept executed by the NORAD air defense facility to identify the unknown radar track, AMIS controllers shall determine the cause for the unknown radar track by analyzing the information received from the NORAD air defense facility, flight progress strips, and other available information in the ARTCC/CERAP.

5–8–5. AIRCRAFT IDENTIFICATION BEFORE INTERCEPT
AMIS controllers shall complete Part A of the AMIS Unknown/Intercept Log (FIG 5–8–1) when an unknown radar track is reported by NORAD air defense facilities and the aircraft is identified before intercept. Each Unknown/Intercept Log shall be numbered consecutively for each calendar year.

NOTE—
Report numbers associated with Unknown/Intercept Log unknown tracks are not to be confused with Form 8020–17, Preliminary Pilot Deviation Reports.

5–8–6. AIRCRAFT IDENTIFICATION AFTER INTERCEPT
AMIS controllers shall complete Part B of the Unknown/Intercept Log when an unknown radar track was intercepted to identify the aircraft.

5–8–7. RETAIN DATA
AMIS controllers shall attach flight progress strips, flight plans, and other available data on the aircraft reported by the NORAD air defense facility as an unknown/intercept, as appropriate, to the AMIS Unknown/Intercept Log. This data shall be retained in the facility files for 3 months.

5–8–8. TIME ENTRY
For the purpose of closing out daily logs and other data, AMIS sectors shall end the day at 2359Z and begin the new day at 0000Z.

5–8–9. DEVIATION OF NORAD ADIZ TOLERANCES
When it appears that a deviation of NORAD ADIZ tolerances or a violation of 14 CFR Part 99 has occurred, the ARTCC/CERAP and the ADCF shall immediately coordinate and investigate the irregularity to confirm that the allegation is valid.
5−8−10. TELEPHONE NOTIFICATION BY ARTCC/CERAP

Alleged deviations of NORAD ADIZ tolerances and alleged violations of 14 CFR Part 99 shall be telephoned by the ARTCC/CERAP to the nearest appropriate Flight Standards Service field office (IFO or FSDO).

NOTE—
NORAD ADIZ tolerances are described in Advisory Circular 99−1, Security Control of Air Traffic.

5−8−11. REVIEW OF DEVIATIONS BY ARTCC/CERAP AND ADCF

ARTCC/CERAPs and ADCFs shall conduct a joint review of alleged deviations from NORAD ADIZ tolerances and alleged violations of 14 CFR Part 99.

a. The ADCF shall send a written report to the ARTCC/CERAP on the alleged deviation/violation (except U.S. military aircraft) within 10 days after the irregularity occurs. ADCF shall take follow−up action on U.S. military aircraft in accordance with established military procedures (Appropriate Air Force Instruction).

b. When an ARTCC/CERAP and ADCF joint review confirms an alleged deviation from NORAD ADIZ tolerances or an alleged violation of 14 CFR Part 99, the ARTCC/CERAP shall prepare a Preliminary Pilot Deviation Report (FAA Form 8020−17).

c. The ARTCC/CERAP shall forward the completed Form 8020−17 together with a copy of the ADCF report to the appropriate FSDO, within 5 working days after receiving the report of the alleged deviation or violation from the appropriate ADCF. When the ARTCC/CERAP has no information on the incident, indicate this on the Incident Report and forward with ADCF report.

NOTE—
The FSDO will advise in writing the appropriate Air Defense Sector with a copy to the ARTCC/CERAP of the completed action on these Incident Reports.
AMIS UNKNOWN/INTERCEPT LOG

Air Defense Division Date Report No.

A. Unknown:

1. Time Z Coordinates Altitude No. Aircraft Speed Heading Possible Identification Remarks

2. Identified as Time Z Location Identified by: (Circle appropriate) Late Flight Plan, Revision, Progress Report, Other (Specify)

3. Reason Unknown: (Circle appropriate) Late Flight Plan, Error in Flight Plan, Late progress report, Pilot error, Other (Specify)

4. No Flight Plan received by AMIS (explain)

B. Intercept:

1. Location Time Z The following information must be given to the NORAD air defense facility when AMIS is forwarded late, there is erroneous aircraft movement information, or there is an apparent violation of ADIZ requirements.

2. Activation Point Time Z

3. Time Flight Plan Transmitted Time Z

4. Revision Point Time Z Time Trans. Time Z

5. Time Progress Received by AMIS Time Transmitted Z

6. Flight Plan and Route

7. Enter remarks by AMIS controller on back.
Section 9. Special Interest Flights–Cuba

5–9–1. PROVIDE AMIS
ARTCCs located within the conterminous United States shall provide AMIS on Special Interest flights as set forth below:

a. Furnish information in accordance with paragraph 5–7–1, CAT TRACK Flights, and paragraph 5–7–2, Departures within NORAD Radar Coverage, on known aircraft of Cuban registry, regardless of the point of origin or destination, and all other known aircraft en route to Cuba, except United States and Canadian military aircraft en route to and from Cuba. Correlation points on aircraft operating into or through the airspace overlying the conterminous United States from Canada shall be the point where the aircraft crosses the United States–Canadian boundary.

b. Furnish information on all known aircraft en route to or from Cuba, except for United States and Canadian military aircraft en route to and from Cuba, operating within the airspace overlying those portions of New York, Miami, Houston, and Oakland Oceanic Control Areas which lie outside the ADIZs in accordance with the following:
   1. Exceptions set forth in paragraph 5–4–2, Exceptions to Furnishing AMIS, do not apply.
   2. Correlation points on aircraft operating in the oceanic control areas specified above shall be those set forth in supplements, as agreed upon between the FAA and the SOCCs.

5–9–2. NORAD SPECIAL INTEREST FLIGHTS
Information on aircraft specified in subparagraph 5–9–4b shall be transmitted as NORAD Special Interest Flights, and the digits “000” shall be inserted in Step 19 of the ROCC/SOCC format.

5–9–3. INFORMATION FURNISHED
ARTCCs located within the conterminous United States shall furnish the information on aircraft operations as set forth in paragraph 5–9–1, Provide AMIS, as specified below:

a. The original point of departure or the last point of departure outside the conterminous United States, if known, and the destination of the aircraft shall be included in Remarks.

b. Air traffic control–approved changes to the route of flight or destination as requested by the pilot.

c. Emergencies declared.

d. Additional information requested by an air defense facility (see subparagraph 5–7–2a).

5–9–4. MARKING FLIGHT PROGRESS STRIPS
To assist in locating and identifying flight progress strips on aircraft specified in paragraph 5–9–1, Provide AMIS, the following additional actions are required:

a. The aircraft identification shall be boxed–in with red pencil.

b. The facility transmitting the flight plan information shall inform the receiving facility that the flight is a “Special Interest Flight–Cuba.”

c. The red box around the identification on the flight progress strip shall be check–marked when the flight plan information has been relayed to both of the following:
   1. Between air traffic control facilities.
   2. To the AMIS position of operation.

5–9–5. AMIS–CUBA
Air traffic control facilities, including those providing tower en route IFR service, located within the conterminous U.S. shall:

a. Provide the appropriate ARTCC with available information on aircraft operations specified in paragraph 5–9–1, Provide AMIS.

b. Provide the appropriate ARTCC with available information as set forth in paragraph 5–9–3, Information Furnished.

c. Apply the requirements of subparagraph 5–9–4a, b, and c1.

NOTE–See Order 7210.3 Chapter 18, Section 4, SPECIAL INTEREST FLIGHTS.
Section 10. NORAD Aircraft Movement Message Format

5−10−1. NORAD AIRCRAFT MOVEMENT MESSAGES

Aircraft movement messages are divided into 23 steps and shall be transmitted in sequence. Except for Steps 1 and 23, each step is assigned a maximum number of spaces for insertion of characters, figures, or numbers. Information transmitted in the aircraft movement message preceding the activation symbol (−) and following the inactivation symbol (#) does not go into the NORAD computer; therefore, the type or number of characters is not limited.

Step 1−Address and message number:

a. Prefix all messages with the letter designator of the NORAD Region/Sector addresses for which the message is intended as indicated below:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Designator</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONR (SE)</td>
<td>C</td>
<td>Tyndall AFB, FL</td>
</tr>
<tr>
<td>CONR (NE)</td>
<td>B</td>
<td>Griffiss AFB, NY</td>
</tr>
<tr>
<td>Cdn NR (CE)</td>
<td>S</td>
<td>North Bay, ONT</td>
</tr>
<tr>
<td>Cdn NR (CW)</td>
<td>W</td>
<td>North Bay, ONT</td>
</tr>
<tr>
<td>CONR (NW)</td>
<td>R</td>
<td>McChord AFB, WA</td>
</tr>
</tbody>
</table>

b. Step 1 may contain letters and digits in any sequence.

c. Number all messages sequentially in the order transmitted to each NORAD Region/Sector beginning at 0000Z and ending at 2359Z each day.

d. The same message may be transmitted simultaneously to more than one NORAD Region/Sector by adding address identifiers and message numbers.

EXAMPLE−
G15M10V12

Step 2−Activation Symbol (−):

a. Step 2 shall consist of one character.

b. Following Step 1, insert an activation symbol (−).

Step 3−Flight Plan Category:

a. Step 3 shall consist of one character.

b. All messages shall contain the letter “F,” “B,” or “S,” as appropriate.

1. “F” signifies a point−to−point flight which may or may not involve a planned delay in the correlation area.

2. “B” signifies an ACC tactical flight and is designated in the remarks section of the flight plan by “PB” (Papa Bravo), followed by the contraction “PADRA.”

EXAMPLE−
P B P A D R A

3. “S” signifies a NORAD Special Interest flight and is designated in the remarks section of the flight plan by “PS” (Papa Sierra), followed by the contraction “PADRA.”

EXAMPLE−
P S P A D R A

Step 4−Aircraft Call Sign:

a. Step 4 shall consist of not more than seven letters or numbers. If fewer than seven letters or numbers are used, insert an ampersand (&) after the last letter or number.

b. Include in all aircraft movement messages the appropriate aircraft operators and United States or Canadian military aircraft designations, followed by the flight numbers specified in the flight plan. Use the tactical military aircraft and foreign military aircraft designations filed in the flight plan.

c. A call sign cannot be revised. If a revision is necessary, cancel the original flight plan and transmit a new “I” type message containing the correct call sign.

Step 5−ARTCC AMIS Designators:

a. Step 5 shall consist of one letter.

b. Use the following single−letter designators to identify the transmitting ARTCC/CERAP:
Step 6—Message Type:

a. Step 6 shall consist of one character.
b. All messages shall contain either the letter “I,” “R,” “D,” or “P.”
   1. “I” signifies a new flight plan.
   2. “R” signifies a revision to a previously transmitted message. Revisions to flight plans normally transmitted by ROCC/SOCC data communications equipment may be transmitted by telephone, provided this action is specified in a supplement, and shall be transmitted whenever one of the following conditions exist:
      (a) The delay time or the estimated time of activation is affected by a change of 5 minutes or more.
      (b) There is a deviation in the route of flight of 10 or more nautical miles in domestic area and 20 or more nautical miles in oceanic areas.
      (c) There is a change in groundspeed of 10 percent or more, except when a “P” type message is transmitted.
   3. “D” signifies a drop or cancellation of a previously transmitted message.
   4. “P” signifies a progress report message.
      (a) Transmit “P” type messages when pilot reports received indicate that the aircraft reported over a check point 5 minutes or more off (before or after) the estimate at the check point previously transmitted in the ROCC/SOCC data communications message.
      (b) “P” type messages shall include Steps 1, 2, 3, 4, 5, 6, 12, 13, and the inactivation symbol (#). Insert in Step 13 the coordinates for the point over which the aircraft checked.

Step 7—Type of Aircraft:

a. Step 7 shall consist of not more than four letters or numbers which designate the type of aircraft. If fewer than four letters or numbers are used, insert an ampersand (&) after the last number or letter.
b. Insert an ampersand (&) when information on the type of aircraft is not available or required.
c. If Step 7 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 8—Flight Size:

a. Step 8 shall consist of two numbers.
b. Indicate the number of aircraft by the numerals “01” through “31” as appropriate.
c. When the number of aircraft exceeds 31, insert “31” in Step 8 and transmit the actual number of aircraft in Step 23.
d. Insert an ampersand (&) when the number of aircraft is not available or required.

Step 9—Magnetic Heading:

a. Step 9 shall consist of one character (&).
b. This item is not operationally required. It is used at present only for programming at the ROCC/SOCC computer location; therefore, insert an ampersand (&).

Step 10—Altitude:

a. Step 10 shall consist of three numbers.
b. Transmit altitudes in hundreds of feet.
   1. The maximum altitude that may be transmitted is 99,900 feet and shall be indicated as “999.”
   2. Transmit DVFR and VFR conditions—on-top as “777.”

EXAMPLE—
2,000 feet=020.
c. When more than one altitude is involved; i.e., formation flights and altitude reservations, transmit the lowest altitude in Step 10 and the highest altitude in Step 23.
d. Insert an ampersand (&) when the altitude is not available or required.
e. If Step 10 is the last entry in the message, insert an inactivation symbol (#) following the last entry.
Step 11–Speed:
   a. Step 11 shall consist of three numbers.
   b. Calculate speed to the nearest 10-knot increment ending with zero.
   c. The speed transmitted shall be the estimated groundspeed used for air traffic control procedures.
   d. Do not transmit the last digit of the calculated speed.
   e. For speeds less than 1,000 knots, transmit a zero as the first digit.
   
   EXAMPLE–
   045=450 knots; 102=1,020 knots.
   f. Revise the time of activation (Step 12) and/or the point of activation (Step 13), as appropriate, when it is necessary to transmit a revision message changing the groundspeed. (See Step 6b2.)
   g. Insert an ampersand (&) when this information is not required.
   h. If Step 11 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 12–Time of Activation:
   a. Step 12 shall consist of four numbers, using Universal Coordinated Time.
   b. Predicate activation times on the estimated time or actual time over a correlation line or fix, or the time of departure from a point within the correlation area, and on revisions thereto.
   c. When a departure time is used as the time of activation, add 5 minutes to the time of departure, and use this time as the time of activation.
   d. When the flight plan data is not received until after penetration of the correlation area, the time transmitted shall be the time over the point of activation. (See Step 13c.)
   e. When a previously transmitted flight plan is canceled and a new flight plan transmitted, the time of activation shall be that time determined for the new point of activation. (See Step 13e.)
   f. Insert an ampersand (&) when this information is not required.
   g. If Step 12 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 13–Point of Activation:
   a. Step 13 shall consist of eight numbers as follows:
      1. The first four numbers of this group shall specify the latitude expressed in degrees and minutes.
      EXAMPLE–
      45 degrees and 32 minutes=4532.
      2. The second four numbers of this group shall specify the longitude expressed in degrees and minutes, except that for any longitude degree greater than 99, delete the first digit.
      EXAMPLE–
      85 degrees and 41 minutes=8541.
      115 degrees and 45 minutes=1545.
   b. Include in an “I” type message and, when required, in revisions thereto, the latitude and longitude coordinates of the point at which the flight crosses the correlation line or the point of departure within the correlation area as appropriate.
   c. When the flight plan data is not received until after penetration of the correlation area, insert the point at which the flight entered the correlation area (Step 12).
   d. When a previously transmitted flight plan is canceled and a new flight plan transmitted, the point of activation shall be either the estimated present position or the last known check point (see Step 12).
   e. Insert an ampersand (&) when this information is not required.
   f. If Step 13 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 14–First Check Point:
   a. Step 14 shall consist of eight numbers.
   b. Insert the latitude and longitude coordinates of one of the following:
      1. The first check point after the point of activation (Step 13) along the route of flight within a correlation area; or
      2. If no reporting or turning point is involved, the point at which the flight departs a correlation area or the point of landing within a correlation area.
   c. Insert an ampersand (&) when this information is not required.
   d. If Step 14 is the last entry in the message, insert an inactivation symbol (#) after the last entry.
Step 15–Second Check Point:

a. Step 15 shall consist of eight numbers.

b. Insert the latitude and longitude coordinates of the second check point after the point of activation (Step 13) along the route of flight.

c. If no reporting or turning point is involved, insert the latitude and longitude coordinates of the point where the flight departs the correlation area or the point of landing within the correlation area.

d. When latitude and longitude coordinates are not available or required, insert an ampersand (&).

Step 16–Third Check Point:

a. Step 16 shall consist of eight numbers.

b. Insert the latitude and longitude coordinates of the third check point after the point of activation (Step 13) along the route of flight.

c. If no reporting or turning point is involved, insert the latitude and longitude coordinates of the point where the flight departs the correlation area or the point of landing within the correlation area.

d. When latitude and longitude coordinates for this check point are not required, insert an ampersand (&).

e. If Step 16 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 17–Fourth Check Point:

a. Step 17 shall consist of eight numbers.

b. Insert the latitude and longitude coordinates of the fourth check point after the point of activation (Step 13) along the route of flight.

c. If no reporting or turning point is involved, insert the latitude and longitude coordinates of the point where the flight departs the correlation area or the point of landing within the correlation area.

d. When latitude and longitude coordinates for this check point are not required, insert an ampersand (&).

e. If Step 17 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 18–Delay Point Indicator:

a. Step 18 shall consist of one number.

b. When the delay point is at one of the following, enter the digit shown:

   1. Point of activation—0
   2. First check point—1
   3. Second check point—2
   4. Third check point—3
   5. Fourth check point—4

c. When the delay point is beyond the fourth actual check point within the addressee’s correlation area, enter in Step 23 a description of the delay area.

EXAMPLE—
DELAY 50 MILE RADIUS 39517221.

d. When the delay point is not available or required (it is required if a delay time is entered in Step 19), insert an ampersand (&).

e. If Step 18 is the last entry in the message, insert an inactivation symbol (#) after the last entry.

Step 19–Delay Time:

a. Step 19 shall consist of three numbers.

b. When a delay is involved, insert one of the following:

   1. The number of minutes’ delay.

   EXAMPLE—
   45 minutes’ delay=045.

   2. When the delay exceeds 599 minutes, enter “599” in Step 19 and enter the total delay in Step 23.

   EXAMPLE—
   DELAY 692 MINUTES 50 MILE RADIUS 28257805.

c. After the aircraft reaches the delay area, transmit a revision message revising the time of activation (Step 12) so the delay time does not exceed 599 minutes.

d. To cancel a delay time, transmit an “R” type message (Step 6) and enter “000” in Step 19.

e. When no delay time is available or required (it is required if a delay time is entered in Step 18), insert an ampersand (&).

f. If Step 19 is the last entry in the message, insert an inactivation symbol (#) after the last entry.
**Step 20—SCATANA Priorities:**

a. Step 20 shall consist of one letter and two numbers.

b. Insert the SCATANA PRIORITY expressed by the letter “P” followed by two numbers.

c. When the SCATANA priority is composed of fewer than two numbers, insert a zero before the priority number to make up the required two numbers.

*EXAMPLE—*

SCATANA PRIORITY One=P01
SCATANA PRIORITY Eleven=P11

d. When SCATANA priorities are not in effect, insert an ampersand (&) in this space.

**Step 21—SIF Code:** Insert assigned Mode 3A discrete code.

**Step 22—Inactivation Symbol (#):** Insert the inactivation symbol immediately after the last entry in any message.

**Step 23—Remarks:**

a. Enter remarks, as appropriate, immediately after the inactivation symbol.

b. Enter the following information in Remarks when necessary:

1. All authorized flight plan remarks which may assist in the identification of the aircraft.

2. Aircraft movement information which cannot be completely described within the limitations of format steps, such as altitude reservations, formation flights, or military exercises.

3. The ETD when the activation time is based on a proposed departure time instead of an actual departure time.

*EXAMPLE—*

ETD 1905Z

4. Additional check points. When more than four check points are required to define the route, enter in remarks and do not convert to latitude and longitude.

*EXAMPLE—*

5TH CHECK POINT 38427842 6TH CHECK POINT 39157840
5TH CHECK POINT 41367910 6TH CHECK POINT DELAY 50 MILE RADIUS 41457945 7TH CHECK POINT 41487948.

5. The date–time group in UTC as the last entry of the message.
<table>
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<tr>
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<tbody>
<tr>
<td>2. Activation Symbol</td>
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<td>3. Flight Plan Category</td>
<td>F</td>
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<td>F</td>
<td>B</td>
<td>B</td>
<td>S</td>
<td>B</td>
<td>B</td>
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<tr>
<td>5. ARTCC/AMIS Ident</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td>M</td>
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<td>N</td>
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<td>6. Message Type</td>
<td>I</td>
<td>I</td>
<td>R</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>R</td>
<td>R</td>
<td>D</td>
<td>I</td>
<td>I</td>
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<td>7. Type of Aircraft</td>
<td>B707</td>
<td>DC8 &amp;</td>
<td>&amp;</td>
<td>B52 &amp;</td>
<td>B52 &amp;</td>
<td>B47 &amp;</td>
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<td>#</td>
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<td>0</td>
<td>&amp;</td>
<td>02</td>
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<td>&amp;</td>
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<tr>
<td>10. Altitude</td>
<td>290</td>
<td>230</td>
<td>&amp;</td>
<td>410</td>
<td>390</td>
<td>270</td>
<td>&amp;</td>
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<td>–</td>
<td>450</td>
<td>410</td>
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<td>11. Speed</td>
<td>045</td>
<td>046</td>
<td>&amp;</td>
<td>370</td>
<td>350</td>
<td>250</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>590</td>
<td>550</td>
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<tr>
<td>12. Time of Activation</td>
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<td>1205</td>
<td>&amp;</td>
<td>1305</td>
<td>1308</td>
<td>1310</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>1410</td>
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</tr>
<tr>
<td>13. Point of Activation</td>
<td>44507445</td>
<td>44457440</td>
<td>&amp;</td>
<td>40407070</td>
<td>45457171</td>
<td>41467373</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>47217842</td>
<td>–</td>
</tr>
<tr>
<td>14. First Check Point</td>
<td>44227421</td>
<td>44507510</td>
<td>&amp;</td>
<td>40457075</td>
<td>45487176</td>
<td>41457005</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>42427371</td>
<td>–</td>
</tr>
<tr>
<td>15. Second Check Point</td>
<td>43197600</td>
<td>43157310</td>
<td>&amp;</td>
<td>40557080</td>
<td>&amp;</td>
<td>42037272</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>#</td>
<td>&amp;</td>
</tr>
<tr>
<td>16. Third Check Point</td>
<td>43007545</td>
<td>#</td>
<td>&amp;</td>
<td>&amp;</td>
<td>&amp;</td>
<td>#</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>–</td>
<td>&amp;</td>
</tr>
<tr>
<td>17. Fourth Check Point</td>
<td>43127530</td>
<td>–</td>
<td>43127510</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>&amp;</td>
<td>&amp;</td>
<td>–</td>
<td>–</td>
<td>&amp;</td>
</tr>
<tr>
<td>18. Delay Point Indicator</td>
<td>#</td>
<td>–</td>
<td>#</td>
<td>2</td>
<td>&amp;</td>
<td>–</td>
<td>&amp;</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>19. Delay Time</td>
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<td>000</td>
<td>050</td>
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<td>020</td>
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<td>20. SCATANA Priority</td>
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<td>P01</td>
<td>P04</td>
<td>–</td>
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<td>21. SIF Code</td>
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<td>22. Inactivation Symbol</td>
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<tr>
<td>23. Remarks</td>
<td>–</td>
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</tbody>
</table>
Chapter 6. Security Control of Air Traffic and Navigation Aids (SCATANA)

Section 1. General

6–1–1. SCOPE

This chapter defines functions and actions required for the implementation of SCATANA. They are in addition to procedures and responsibilities contained in the SCATANA Plan.

6–1–2. COMMAND AUTHORITY

In areas not under the jurisdiction of CINCNORAD, the Commander in Chief of the Unified/Specified Commands established by the Secretary of Defense for their respective areas of responsibility or the name of their designated subordinate command shall be substituted for CINCNORAD or higher authority whenever such reference appears in this chapter.
Section 2. Responsibilities

6−2−1. IMPLEMENTATION INSTRUCTIONS

Implementation instructions will be originated by the NORAD/PACAF/PIADR Region/Sector Commander or higher level.

6−2−2. NORAD DISSEMINATION

After coordinating with other affected NORAD units, NORAD Regions/Sectors will notify the Air Traffic Control System Command Center (ATCSCC) of SCATANA instructions to be applied. ATCSCC will disseminate SCATANA instructions in accordance with paragraph 6−3−2, Notify Field Facilities.

NOTE−
NORAD/NORAD Regions/Sectors/ATCSCC communications will be via the NORAD Tactical DSN System (NTAS) circuits using appropriate precedence.

6−2−3. NORAD/ARTCC ALIGNMENT

For the purpose of the SCATANA Plan notifications, ARTCCs will be considered to be aligned as follows:

\[\text{TBL 6−2−1}\]

\begin{center}
\begin{tabular}{|c|c|}
  \hline
  NORAD Region/Sector & ARTCCs \\
  \hline
  CONR (SE) & Atlanta, Fort Worth, Houston, Indianapolis, Jacksonville, Kansas City, Memphis, Miami, and Washington \\
  \hline
  CONR (NE) & Boston, Chicago, Cleveland, Minneapolis, and New York \\
  \hline
  CONR (W) & Albuquerque, Denver, Los Angeles, Oakland Salt Lake City, Seattle \\
  \hline
  Alaskan NR & Anchorage \\
  \hline
  Hawaiian NR & Honolulu \\
  \hline
\end{tabular}
\end{center}

6−2−4. DEVELOP LOCAL PROCEDURES

FAA headquarters and field offices shall take the actions specified herein with regard to developing local procedures and other supporting documents containing appropriate information to be used when the provisions of the SCATANA Plan are implemented. This will ensure that personnel responsible for implementation are familiar with the required SCATANA tests required by the SCATANA Plan, Section VII, SCATANA Testing Procedures.
Section 3. Air Traffic Control System Command Center (ATCSCC)

6−3−1. MAINTAIN SCATANA DIRECTIVES
Maintain appropriate SCATANA implementing directives at each operating position.

6−3−2. NOTIFY FIELD FACILITIES
Notify and issue appropriate instructions to the following facilities when any portion of SCATANA has been implemented:
   a. ARTCC/CERAPs.
   b. FAA Regional Operations Centers.
   c. FCC for non−Federal NAVAIDs.

6−3−3. ISSUE FDC NOTAM
Issue an FDC NOTAM which specifies:
   a. The emergency declared.
   b. The geographical areas affected.
   c. The SCATANA rules in effect.
   d. The applicable portion/s of the “Wartime Air Traffic Priority List for Movement of Aircraft.”
   e. Other details, not specified above, which will help the aviation interests understand the emergency situation and the restrictions placed on the movement of air traffic.

NOTE−
The example FDC NOTAM below is for guidance purposes only. Although the information contained in this example could conceivably cover all facets of an emergency situation, it does not mean that the information contained could cover all emergency actions that might be placed into effect by the military when the provisions of the SCATANA Plan are implemented.

EXAMPLE−

6−3−4. DEVELOP PROCEDURES
Develop procedures to provide for:
   a. Effective implementation of SCATANA.
   b. Conducting SCATANA tests to include at a minimum:
      1. Simulating landing and/or diverting of air traffic.
      2. Simulating the control of air navigation aids by specifying the location and type of aid to be controlled, such as VOR/DME, VORTAC, TACAN, radio beacons, ILS/MLS.
      3. Forwarding the messages, as rapidly as possible, to appropriate aeronautical facilities.
      4. Informing the NORAD Region/Sector SCATANA Officer or the ADLO of the control instructions received.
Section 4. ARTCC/CERAP Actions

6–4–1. MAINTAIN SCATANA DIRECTIVES
Maintain appropriate SCATANA implementing directives at each operating position.

6–4–2. NOTIFY FIELD FACILITIES
Notify and issue appropriate instructions to the following facilities when any portion of SCATANA has been implemented:
   a. RAPCONs.
   b. RATCFs.
   c. Towers.
   d. Flight service stations.
   e. Appropriate aeronautical facilities.

6–4–3. DEVELOP PROCEDURES
Develop procedures to provide for:
   a. Effective implementation of SCATANA.
   b. Conducting SCATANA tests to include at least:
      1. Simulating landing and/or diverting of air traffic.
      2. Simulating the control of air navigation aids by specifying the location and type of aid to be controlled, such as VOR/DME, VORTAC, TACAN, radio beacons, ILS/MLS.
      3. Forwarding the messages, as rapidly as possible, to appropriate aeronautical facilities.
      4. Informing the ATCSCC of the estimated completion times of actions required in the simulated security control instructions received.

6–4–4. SCATANA ACTION FORMS
Prepare and distribute to appropriate facilities SCATANA action forms and SCATANA Test cards.

6–4–5. EVALUATE TEST ACTIONS
Evaluate test actions by the ARTCC, associated FAA facilities, and other aeronautical facilities to determine adequacy.

   a. Take immediate action to correct any deficiencies.

   b. Prepare a detailed, narrative statement, and forward to appropriate ADLOs or, where no ADLO is assigned, to the FAA regional office concerned including:
      1. Summary of the information contained in the SCATANA Test Reports (see FIG 6–4–1, FAA Form 7610–3).
      2. Effectiveness of the SCATANA Plan within the ARTCC’s area of responsibility.
      3. Recommendations if required.

6–4–6. ACTIONS BASED ON INSTRUCTIONS FROM MILITARY
When SCATANA is implemented and the military specifies that air traffic will be diverted and/or required to land, take the following action based on instructions from the military:

   a. Divert aircraft to airports that have runway lengths equal to or longer than those prescribed in the “Desired” columns of TBL 6–7–2 unless military instructions indicate there is insufficient time to take such action.

   b. If the action in subparagraph a, cannot be effected, divert aircraft to airports that have runway lengths equal to or longer than those prescribed in the “Minimum” columns of TBL 6–7–2.

   c. Should mandatory landing be required, the convenience of pilots and passengers is secondary to landing of aircraft with reasonable safety. Circumstances permitting; i.e., weather, instrument approach minima, military instructions, etc., consider selecting an airport which typically accommodates the aircraft being diverted. Landing civil or military aircraft at military bases should be based on prior coordination with appropriate military authorities.
6–4–7. DIVERSION AIRPORTS

In conjunction with the appropriate Flight Standards District Offices, prepare and keep current lists of Minimum Diversion Airports and Desired Diversion Airports (see TBL 6–7–1) which include the following information for each airport:

- **a.** Name of airport.
- **b.** City and state.
- **c.** Runway information including:
  1. Length (utilizing the minimum and desired runway lengths tables for diversion airports in TBL 6–7–2).
  2. Surface (use “H” prefix for hard surface).
- **d.** Elevation.
- **e.** Lighting information including:
  1. Boundary lights.
  2. Runway lights (indicate on which runway(s) lighting is provided).
  3. Approach lights.

**NOTE—** It is not necessary to elaborate on type of lighting.

- **f.** Navigation/approach aids (indicate runway(s) aids available).
- **g.** Acceptable type aircraft (see TBL 6–7–2).
- **h.** Remarks concerning field facilities not listed above.

**EXAMPLE—**
- Lights on request.
- Closed dusk to dawn.

6–4–8. DISTRIBUTION OF DIVERSION AIRPORT LISTS

Distribute copies of the Diversion Airport Lists, and subsequent revisions thereto, as follows:

- **a.** One copy to:
  1. FAA regional Air Traffic divisions.
  2. Flight Standards Air Carrier District Office.
  3. Other appropriate air traffic control facilities located within the ARTCC’s flight advisory area.
  4. Appropriate ADLOs.

- **b.** Three copies to:
  
  Air Transport Association
  Attention: Director, ANTC
  1709 New York Avenue, N.W.
  Washington, DC 20006

**NOTE—** In the event of implementation of SCATANA, all ARTCC/CERAPs and FAA ADLOs, where assigned, will have an immediate need for current lists of Diversion Airports to permit air traffic to be landed with minimum delay.
## FIG 6−4−1
FAA FORM 7610−3
SCATANA TEST
REPORT

<table>
<thead>
<tr>
<th>DEPARTMENT OF TRANSPORTATION</th>
<th>FACILITY NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEDERAL AVIATION ADMINISTRATION</td>
<td></td>
</tr>
<tr>
<td>SCATANA TEST REPORT</td>
<td></td>
</tr>
<tr>
<td>TEST DATE</td>
<td>ACTION</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td>SCATANA Test Message received from –</td>
</tr>
<tr>
<td>2</td>
<td>Broadcast simulated</td>
</tr>
<tr>
<td>3</td>
<td>Notification completed (FAA Form 7610−1, item 1A)</td>
</tr>
<tr>
<td>4</td>
<td>Area simulated clear of known aircraft</td>
</tr>
<tr>
<td></td>
<td>ARTCC at notified</td>
</tr>
<tr>
<td>5</td>
<td>Simulated shutdown of air NAVAIDS listed in item 2A, FAA Form 7610−1</td>
</tr>
<tr>
<td></td>
<td>&quot;Terminate SCATANA/modify emergency SCAT rules&quot; message received</td>
</tr>
<tr>
<td>6</td>
<td>Simulated return of air NAVAIDS to operation</td>
</tr>
<tr>
<td></td>
<td>Simulated broadcast of &quot;termination/modification&quot; message</td>
</tr>
</tbody>
</table>

OFFICES NOT ALERTED (Listed in item 1A on FAA Form 7610−1)

| SIGNATURE OF PERSON REPORTING |
| FAA Form 7610−3 (82−79) |

OMB Approval Not Required
RIS: AT 7610−2
Section 5. Facility Actions

6–5–1. SCATANA ACTION FORMS AT OPERATING POSITIONS
Maintain a copy of the SCATANA Action Form at the operating position(s).

6–5–2. COMPLY WITH ARTCC/CERAP INSTRUCTIONS
Comply with the provisions of the FAA Form 7610–1 and any additional instructions received from the ARTCC/CERAP. (See FIG 6–5–1, FAA Form 7610–1, Aeronautical Facility: SCATANA Actions.)
# FAA FORM 7610–1, AERONAUTICAL FACILITY: SCATANA ACTIONS

## AERONAUTICAL FACILITY—SCATANA ACTIONS

*(Post at operating position)*

<table>
<thead>
<tr>
<th>Facility Actions Information</th>
<th>NORAD Region via (facility)</th>
</tr>
</thead>
</table>

Note: SCATANA instructions may be received from NORAD Region via (facility). If instructions are received from other sources, check with the facility listed above to verify instructions.

### AIR DEFENSE INSTRUCTIONS

#### 1. AIR TRAFFIC CONTROL

Upon receipt of instructions to implement SCATANA Plan, take the following actions immediately:

<table>
<thead>
<tr>
<th>Office</th>
<th>Telephone Number</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

* Does not participate in SCATANA tests.

#### 2. CONTROL OF NAVIADS

Upon receipt of instructions to implement the SCATANA Plan, take the following actions immediately:

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Time Req.</th>
<th>Method of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

A. **Shut down** the following NAVIADS in accordance with instructions received from (facility):

B. **Restore** the above NAVIADS in accordance with instructions received from (facility):

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Type</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

C. Advise ARTCC when all NAVIADS are shut down and also as soon as practicable when they are individually restored.

### SCATANA TESTS

1. **Upon receipt of information** that the provisions of the SCATANA Plan are being tested, notify the offices participating (listed in item 1A without an asterisk).

   "THIS IS A SCATANA TEST. NORAD REGION AREA. REPEAT. THIS IS A SCATANA TEST. NORAD REGION AREA. SIMULATE SCATANA ACTIONS. DO NOT BROADCAST THIS MESSAGE OVER AIR-GROUND RADIO. DO NOT SHUT DOWN NAVIADS OR SUSPEND FLIGHT OPERATIONS. THIS IS A SCATANA TEST ONLY."

2. **Upon receipt of information** that the SCATANA Test is terminated, notify the participating offices (listed in item 1A without an asterisk).

   "SCATANA TEST TERMINATED IN NORAD REGION AREA."

   A. SIMULATE other SCATANA actions.

   B. Complete the SCATANA Test Report, FAA Form 7610-3, and forward to the appropriate office.

### PREPARED

<table>
<thead>
<tr>
<th>DATE</th>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FAA Form 7610–1 (12–76)**

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6–5–2 Facility Actions
Section 6. ADLO/Regional Office Actions

6–6–1. NARRATIVE REPORTS
The FAA ADLO or the FAA Regional Office when no ADLO is assigned shall:

a. Evaluate SCATANA Narrative Reports (RIS AT 7610–2) and prepare a narrative report (RIS AT 7610–3) concerning the effectiveness of these tests.

b. Forward one copy of the narrative report to:
   1. Appropriate NORAD/PIAD Region/Sector Headquarters.
   2. FAA regions concerned.
   4. Appropriate ARTCC.

6–6–2. SCATANA PLAN SUPPLEMENTS

a. The FAA regional Air Traffic division and the ADLOs concerned shall prepare and revise, as necessary, SCATANA Plan supplements and coordinate them with the appropriate NORAD/PIADR Command authorities and other concerned FAA regions.

b. The FAA regional Air Traffic division managers and the NORAD/PIAD Region Deputy for Operations shall sign supplemental agreements.
Section 7. Diversion Airports

6–7–1. INSTRUCTIONS FOR COMPILING DIVERSION AIRPORT LISTS AND HOW TO USE THE AVAILABLE LANDING LENGTH DATA

REFERENCE—Paragraph 6–4–7, Diversion Airports.

a. Enter the following data for each airport listed in columns numbered 1 through 9 as appropriate:

1. Column 1—Name of airport.

2. Column 2—City and state where the airport is located.

3. Column 3—The highest class of aircraft which can be landed at this airport when the conditions specified in subparagraph 6–4–6a are in effect. The class of aircraft entered indicates that all aircraft in this class and all other aircraft listed in lower numbered classes can be landed at this airport.

4. Column 4—The highest class of aircraft which can be landed at this airport when the conditions specified in subparagraph 6–4–6b are in effect. The class of aircraft entered indicates that all aircraft listed in this class as well as all other aircraft listed in lower numbered classes can be landed at that airport.

5. Column 5—Length of the longest runway in feet. If the runway is hard surfaced, enter “H” preceding the length.

6. Column 6—Field elevation.

7. Column 7—Airport lighting installations. Indicators are the same as those used in Airport/Facility Directory.

8. Column 8—Navigation and approach aids available at this airport.

9. Column 9—Remarks concerning field facilities not listed above. However, information concerning landing weight of the aircraft and/or runway weight limitations should not be entered since these landings are to be made under a Defense and/or Air Defense Emergency Condition and continuous operations from these airports are not anticipated.

b. In order to determine the format of the items listed (see TBL 6–7–1) when the name of the city and state (Column 2) and the name of the airport (Column 1) are known, aircraft class entries for Column 3 (Desired) and/or Column 4 (Minimum), as appropriate, can be determined for airports at any elevation from sea level through 7,000 feet by using the following procedures:

1. Determine the field elevation, Column 6.

2. Then determine the longest runway at the airport, Column 5. Sample: Redmond Airport, OR, is 3,077 feet above sea level; its longest runway is 7,040 feet long. What class of aircraft can be diverted to this airport?

3. Using the airport elevation (3,077 feet) and the runway length (7,040 feet) from Columns 5 and 6 of the airport list, move to the landing tables, TBL 6–7–2.

DIVERSION AIRPORT LIST FOR AIR ROUTE TRAFFIC CONTROL CENTERS

<table>
<thead>
<tr>
<th>Name of Airport</th>
<th>Location City &amp; State</th>
<th>Suitable Aircraft Classes for this Airport</th>
<th>Runway Length</th>
<th>Airport Elevation</th>
<th>Airport Lighting</th>
<th>NAVAIDs</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roberts Field</td>
<td>Redmond (RDM), OR</td>
<td>IV, V</td>
<td>H7,040 Ft.</td>
<td>3,077 Ft.</td>
<td>B/HIRL</td>
<td>(H) VORTACW/ILS</td>
<td>Continuously attended. For lights, call RDM FSS</td>
</tr>
</tbody>
</table>

Diversion Airports 6–7–1
4. Look under the 4,000-foot pressure altitude (always use the next 1,000 feet above the field elevation) column and read down the desired runway column until a runway length appears which is longer than 7,040 feet. If none were longer, you would go to the next higher page; however, in this instance a runway length of 7,130 feet is found. A check at the top of the page indicates that 7,130 feet is suitable for Class V aircraft and 7,040 feet is not. Therefore, Redmond Airport is suitable for Class IV aircraft and below as a desirable diversion airport but is unsuitable for Classes V and VI.

5. After determining that Class IV is the highest class of aircraft that can be diverted to Redmond Airport under a desired situation (TBL 6–7–2), move back to the airport list (See TBL 6–7–1) and place IV in Column 3, Aircraft Classes. Repeat the same process using the minimum values in the tables to determine the class of aircraft which can be diverted to Redmond Airport when conditions of minimum landing requirements are in effect. Minimum requirements (TBL 6–7–2) always permit an airport to accommodate a higher class of aircraft than a desired landing situation. Using minimum landing requirements, Redmond Airport is suitable for recovery of Class V aircraft.

6. Many airports have longer runways than any of the landing lengths listed under desired and/or minimum requirements at all computed altitudes. When this situation exists, enter VI in Columns 3 and 4 under Aircraft Classes on the airport list. This indicates that all aircraft on the list can be diverted to those airports whether desired or minimum situations exist.

7. Under certain circumstances, the nearest airport may be a considerable distance from the aircraft’s position or located in a target area while a smaller airport closer to the aircraft and outside the target area may be acceptable from a safety standpoint. If time permits, the pilot should be queried as to the acceptability of the small diversion airport. The pilot is in a position to make a determination considering the actual weight of the aircraft at the time, the airport layout, wind, temperature, etc. If the pilot advises the smaller diversion airport is acceptable, the aircraft shall be so diverted. In the event a pilot requests diversion to a smaller airport than listed for this type aircraft, the request will be honored if such a change in diversion airport is within the parameters of the military’s instructions or if required approval can be obtained.

8. Military aircraft, where possible, without undue delay should be recovered at military bases. It follows that general aviation aircraft, where recovery time will not be derogated, should, as a general guide, be handled at general aviation airports. In those situations where the requests from the military are so urgent that nontactical air traffic must be landed immediately, it shall be diverted to the most suitable airport without delay.

9. Definition of Terms.

(a) Tactical Air Traffic. Military flights engaged in operational missions against the enemy, flights engaged in immediate deployment for a combat mission, and preplanned control and logistical support flights contained in Emergency War Plans.

(b) Nontactical Air Traffic. Civil or military flights other than tactical air traffic, see subparagraph (a) above.

6–7–2. DIVERSION AIRPORTS LANDING LENGTHS (DISTANCES) REQUIRED FOR MINIMUM DIVERSION AIRPORTS AND DESIRED DIVERSION AIRPORTS

a. In developing suitable criteria for desired diversion airports and minimum diversion airports, two standards for landing lengths were established. They are defined as follows:

1. A desired diversion airport is one at which the longest usable runway is of such length as to afford a normal landing for a specific class of aircraft when the aircraft’s landing characteristics are computed for the field elevation of the airport under consideration.

2. A minimum diversion airport is one at which the longest usable runway is of such length which will afford a safe landing for a specific class of aircraft when the aircraft’s landing characteristics are computed for the field elevation of the airport under consideration. Minimum diversion airports will usually be used only when immediate landing of an aircraft is required.

b. Requirements for desired and minimum diversion airports are computed for pressure altitudes from sea level to 7,000 feet altitude. The computed values are based on the maximum allowable structural landing weights for the aircraft, and airport
conditions of no wind, no runway slope, and no approach or climb limitations were applied. Computed landing lengths for air carrier aircraft by class are shown in TBL 6–7–2.

c. To facilitate rapid selection of diversion airports when SCATANA is implemented, the most frequently used transport aircraft have been divided into six classes. Each class is based on the length of runway required for safe operations for all aircraft within its general class. As new aircraft are developed and enter the air carrier inventory, they will be added to the class which best accommodates their runway requirements.

d. In assigning aircraft to similar classes, the following ground rules were followed for selecting both desired and minimum diversion airports:

1. The minimum runway lengths required for each aircraft to land at sea level and at each thousand foot altitude through 7,000 feet.

2. Grouping aircraft according to their landing lengths required without regard to manufacturer.

3. Keeping the difference between the shortest and the longest runway required to land the aircraft listed in each class to a practicable limit.

4. Only limited types of general aviation and business aircraft are included in the aircraft classes since their landing characteristics usually permit them to be recovered at most airports where air traffic is controlled.

e. The current listing of transport aircraft has been subdivided into Classes I through VI according to categories of runway landing lengths each class requires. Within each aircraft class, the runway landing lengths required for individual aircraft are stated for airports located at altitudes from sea level to 7,000 feet MSL. (See TBL 6–7–2).
### TBL 6–7–2
CURRENT AIR TRANSPORT AIRCRAFT SUBDIVIDED INTO CLASSES I THROUGH VI
ACCORDING TO LANDING LENGTHS REQUIRED ON HARD SURFACE RUNWAYS AT ALTITUDES FROM SEA LEVEL TO 7,000 FEET PRESSURE ALTITUDE

<table>
<thead>
<tr>
<th>Class I Aircraft</th>
<th>Class II Aircraft</th>
<th>Class III Aircraft</th>
<th>Class IV Aircraft</th>
<th>Class V Aircraft</th>
<th>Class VI Aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospatiale/Aeritalia</td>
<td>British Aerospace</td>
<td>Beechcraft</td>
<td>Airbus Industrie</td>
<td>Boeing</td>
<td>Airbus Industrie</td>
</tr>
<tr>
<td>CASA</td>
<td>Cessna 500</td>
<td>Boeing</td>
<td>Argosy</td>
<td>B707–100B Series</td>
<td>A300B4–103</td>
</tr>
<tr>
<td>DeHavilland</td>
<td>Embraer</td>
<td>British Aerospace</td>
<td>HFB 320 Hansa Jet</td>
<td>Canadair</td>
<td>British Aerospace</td>
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### Class I Aircraft: Landing Lengths Required at Airports with Hard Surface Runways

**Minimum (M) Length of 2,220 Feet at Sea Level to a Desired (D) Length of 4,300 Feet at 7,000 Feet Pressure Altitude**

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6−7−6 Diversion Airports
### Class II Aircraft: Landing Lengths Required at Airports with Hard Surface Runways

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## Class III Aircraft: Landing Lengths Required at Airports with Hard Surface Runways

A minimum (M) length of 3,810 feet at sea level to a desired (D) length of 6,400 feet at 7,000 feet pressure altitude.

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M - Minimum Landing Lengths

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A minimum (M) length of 3,810 feet at sea level to a desired (D) length of 6,400 feet at 7,000 feet pressure altitude

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Class IV Aircraft: Landing Lengths Required at Airports with Hard Surface Runways

A MINIMUM (M) LENGTH OF 4,700 FEET AT SEA LEVEL TO A DESIRED (D) LENGTH OF 7,200 FEET AT 7,000 FEET PRESSURE ALTITUDE

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Class V Aircraft: Landing Lengths Required at Airports with Hard Surface Runways

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British Aerospace

| VC−10               | 6,380    | 5,490 | 6,570 | 5,650 | 6,750 | 5,800 | 6,940 | 5,960 |
|                    |          |       |       |       |       |       |       |       |
| Super VC−10         | 6,320    | 5,430 | 6,500 | 5,590 | 6,690 | 5,750 | 6,880 | 5,920 |
| Britannia Series 260| 6,100    | 5,230 | 6,230 | 5,340 | 6,400 | 5,480 | 6,580 | 5,640 |
| Britannia Series 321| 5,990    | 5,130 | 6,160 | 5,280 | 6,340 | 5,430 | 6,510 | 5,580 |
| British Aerospace/Aerospatiale | | | | | | | | |
| Concord             | 6,600    | 5,660 | 6,730 | 5,770 | 6,890 | 5,910 | 7,090 | 6,080 |
|                    |          |       |       |       |       |       |       |       |
| Canadair            |          |       |       |       |       |       |       |       |
| CL−44D4            | 6,240    | 5,350 | 6,380 | 5,470 | 6,520 | 5,590 | 6,660 | 5,710 |
|                    |          |       |       |       |       |       |       |       |
| Dassault/SUD       |          |       |       |       |       |       |       |       |
| Mystar20           | 5,760    | 4,990 | 6,090 | 5,270 | 6,420 | 5,550 | 6,770 | 5,820 |
|                    |          |       |       |       |       |       |       |       |
| Lockheed           |          |       |       |       |       |       |       |       |
| L−1011−1           | 6,300    | 5,400 | 6,430 | 5,510 | 6,550 | 5,620 | 6,700 | 5,700 |
|                    |          |       |       |       |       |       |       |       |
| L−1011−1−1         | 6,450    | 5,530 | 6,600 | 5,660 | 6,750 | 5,790 | 6,900 | 5,920 |
|                    |          |       |       |       |       |       |       |       |
| L−1011−1−2         | 6,600    | 5,660 | 6,750 | 5,790 | 6,900 | 5,920 | 7,080 | 6,070 |
|                    |          |       |       |       |       |       |       |       |
| L−1011−1−3         | 6,750    | 5,790 | 6,930 | 5,940 | 7,100 | 6,090 | 7,280 | 6,240 |
|                    |          |       |       |       |       |       |       |       |
| L−1649             | 6,260    | 5,360 | 6,440 | 5,520 | 6,580 | 5,640 | 6,790 | 5,820 |
|                    |          |       |       |       |       |       |       |       |
| McDonnell/Douglas   |          |       |       |       |       |       |       |       |
| DC−8−61            | 6,130    | 5,250 | 6,290 | 5,390 | 6,450 | 5,530 | 6,630 | 5,680 |
|                    |          |       |       |       |       |       |       |       |
| DC−8−62            | 6,000    | 5,150 | 6,160 | 5,280 | 6,320 | 5,420 | 6,490 | 5,570 |
|                    |          |       |       |       |       |       |       |       |
| DC−8−72            | 6,320    | 5,420 | 6,490 | 5,510 | 6,550 | 5,700 | 6,830 | 5,860 |
|                    |          |       |       |       |       |       |       |       |
| DC−8F−54           | 6,130    | 5,250 | 6,290 | 5,390 | 6,450 | 5,530 | 6,620 | 5,670 |
|                    |          |       |       |       |       |       |       |       |
| DC−10−10           | 6,500    | 5,580 | 6,680 | 5,730 | 6,850 | 5,870 | 7,030 | 6,030 |
|                    |          |       |       |       |       |       |       |       |
| DC−10−30 (RC−10A)  | 6,600    | 5,660 | 6,780 | 5,810 | 6,950 | 5,960 | 7,080 | 6,070 |
|                    |          |       |       |       |       |       |       |       |
| DC−10−40           | 6,450    | 5,530 | 5,660 | 6,660 | 6,750 | 5,790 | 6,930 | 5,940 |

Diversion Airports 6−7−11
A MINIMUM (M) LENGTH OF 4,850 FEET AT SEA LEVEL TO A DESIRED (D) LENGTH OF 8,000 FEET AT 7,000 FEET PRESSURE ALTITUDE

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<thead>
<tr>
<th>Aircraft this Class</th>
<th>Sea Level</th>
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Class VI Aircraft: Landing Lengths Required at Airports with Hard Surface Runways

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<td>8,750</td>
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A MINIMUM (M) LENGTH OF 5,500 FEET AT SEA LEVEL TO A DESIRED (D) LENGTH OF 10,510 FEET AT 7,000 FEET PRESSURE ALTITUDE

<table>
<thead>
<tr>
<th>Aircraft this Class</th>
<th>Sea Level</th>
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McDonnell/Douglas

| DC-8-12-1-51        | 6,730    | 5,770 | 6,910 | 5,920 | 7,080 | 6,070 | 7,270 | 6,230 | 7,470 | 6,400 | 7,740 | 6,630 | 8,130 | 6,970 | 8,530 | 7,310 |
| DC-8-31-2-41-52     | 6,820    | 5,840 | 6,990 | 5,990 | 7,160 | 6,140 | 7,350 | 6,300 | 7,550 | 6,470 | 7,820 | 6,700 | 8,220 | 7,040 | 8,610 | 7,380 |
| DC-8-33-2-43-53     | 6,960    | 5,960 | 7,130 | 6,110 | 7,320 | 6,270 | 7,500 | 6,430 | 7,710 | 6,610 | 7,990 | 6,850 | 8,380 | 7,180 | 8,800 | 7,540 |
| DC-8-63             | 6,530    | 5,600 | 6,700 | 5,750 | 6,870 | 5,890 | 7,060 | 6,050 | 7,250 | 6,220 | 7,580 | 6,500 | 7,900 | 6,770 | 8,300 | 7,120 |
| DC-8-71             | 6,920    | 5,930 | 7,100 | 6,090 | 7,280 | 6,240 | 7,480 | 6,410 | 7,670 | 6,580 | 8,020 | 6,880 | 8,360 | 7,170 | 8,760 | 7,510 |
| DC-8-73             | 6,850    | 5,870 | 7,030 | 6,030 | 7,200 | 6,170 | 7,400 | 6,360 | 7,600 | 6,520 | 7,950 | 6,820 | 8,290 | 7,110 | 8,690 | 7,450 |

Highest Minimum Landing Length this Class

|                  | 7,590 | 7,770 | 7,960 | 8,160 | 8,360 | 8,570 | 8,790 | 9,010 |

Diversion Airports
Chapter 7. Escort of Hijacked Aircraft

Section 1. General

7–1–1. PURPOSE

The FAA hijack coordinator (the Director or his/her designate of the FAA Office of Civil Aviation Security) on duty at Washington headquarters will request the military to provide an escort aircraft for a confirmed hijacked aircraft to:

a. Assure positive flight following.
b. Report unusual observances.
c. Aid search and rescue in the event of an emergency.

d. When escort aircraft are under military control, separation between the escort aircraft/hijacked aircraft and other IFR traffic is the responsibility of the FAA. Separation shall be provided through the application of appropriate altitude reservations as required.

e. When escort aircraft is under FAA control, standard air traffic control separation shall be applied. In no case shall any clearance or instruction to the aircraft compromise ATC standards.

7–1–2. REQUESTS FOR SERVICE

The escort service will be requested by the FAA hijack coordinator by direct contact with the National Military Command Center (NMCC). Normally, NORAD escort aircraft will take the required action. However, for the purpose of these procedures, the term “escort aircraft” applies to any military aircraft assigned to the escort mission. When the military can provide escort aircraft, the NMCC will advise the FAA hijack coordinator the identification and location of the squadron tasked to provide escort aircraft. NMCC will then authorize direct coordination between FAA and the designated military unit. When a NORAD resource is tasked, FAA will coordinate through the appropriate SOCC/ROCC.

e. When tanker aircraft are employed, the designated tankers and escort aircraft shall be under FAA control, and appropriate aerial refueling procedures shall apply.

7–1–3. HANDLING PRIORITY

When the situation requires an expedited departure of the escort aircraft, the aircraft shall be afforded priority consideration over other departing aircraft.

7–1–4. CONTROL RESPONSIBILITIES FOR U.S. AIRSPACE

a. When hijacked aircraft is within FAA radar coverage, escort aircraft shall be controlled by the appropriate FAA facility.

b. When a hijacked aircraft is not within FAA radar coverage but within military radar coverage, escort aircraft may be controlled by the military for the escort phase only.

c. When escort aircraft are under military control, separation between the escort aircraft/hijacked aircraft and other IFR traffic is the responsibility of the FAA. Separation shall be provided through the application of appropriate altitude reservations as required.

d. When escort aircraft is under FAA control, standard air traffic control separation shall be applied. In no case shall any clearance or instruction to the aircraft compromise ATC standards.

e. When tanker aircraft are employed, the designated tankers and escort aircraft shall be under FAA control, and appropriate aerial refueling procedures shall apply.

7–1–5. CONTROL RESPONSIBILITIES FOR CANADIAN AIRSPACE

Escort aircraft entering Canadian airspace from the U.S. shall be transferred to NORAD control in accordance with FAA/NORAD procedures prior to the aircraft entering Canadian airspace. Escort aircraft entering U.S. airspace from Canada will be transferred from NORAD control in the same manner when transfer of control is effected. When the hijacked aircraft is not within the coverage of the NORAD surveillance system in Canada, the escort mission will be discontinued.

7–1–6. AIR/GROUND COMMUNICATIONS SECURITY

Except when specifically directed otherwise by FAA headquarters, every precaution shall be taken to prevent the hijacker/s from gaining knowledge that an escort is being conducted. When communicating with escort aircraft, ensure that transmissions are made on a different frequency from the one being used to communicate with the hijacked aircraft and are not simultaneously broadcast on a frequency which can be overheard by the hijacked aircraft.
7–1–7. WEATHER/FLIGHT SAFETY LIMITATIONS

If weather conditions or other flight safety factors make the escort mission impractical, the mission shall be terminated by the controller or the pilot, and the FAA headquarters hijack coordinator shall be advised immediately. The pilot of the escort aircraft will keep the controller advised of adverse weather or any other hazardous conditions. The pilot will immediately terminate the mission if radio contact with the control facility is lost, maintaining the last assigned altitude and/or radio failure procedures unless the pilot has received specific instructions to the contrary.
Section 2. Escort Procedures

7−2−1. FACILITY NOTIFICATION
The FAA hijack coordinator will advise the appropriate center/control tower of the identification of the military unit and location tasked to provide the hijack escort. The center/control tower shall coordinate with the designated NORAD SOCC/ROCC/military unit advising of the hijack aircraft’s location, direction of flight, altitude, type aircraft and recommended flight plan to intercept the hijack aircraft. The center/control tower shall file the coordinated flight plan.

7−2−2. PILOT NOTIFICATION
a. The control tower, on initial contact with the aircraft, shall inform the pilot of the nature of the mission.
EXAMPLE—
“Red dog five, this is a hijack escort mission.”

b. If the aircraft is an air defense or tactical aircraft, the controller shall also request the pilot to complete an armament safety check.
EXAMPLE—
“Perform armament safety check.”

7−2−3. VECTORS
Escort aircraft shall be vectored to a position 5 miles directly behind the hijacked aircraft. The vectors shall be planned to approach the hijacked aircraft from the rear to avoid the possibility of being observed and to position the escort aircraft at the same altitude, speed, and heading as the hijacked aircraft.

7−2−4. RADAR REQUIREMENTS
Normally, radar contact with both aircraft is required. However, if the pilot of the escort aircraft has the hijacked aircraft in visual contact, the mission may continue without radar contact.

7−2−5. AIRPORT LIMITATIONS
When the hijacked aircraft descends for the purpose of landing at an airport within the continental U.S., the escort aircraft will not follow the hijacked aircraft into airspace delegated to an approach control facility. The FAA facility controlling the aircraft or within whose airspace the aircraft is operating shall issue instructions to the pilot or to the military control facility for the aircraft to hold at a specified altitude and location and wait for further instructions.

7−2−6. RESPONSIBILITIES PRIOR TO JOIN−UP
Until the escort aircraft has joined−up with the hijacked aircraft, the pilot shall be kept informed of the hijacked aircraft heading, speed, altitude, and destination (if known); also, its range and position relative to the escort aircraft. For fighter/interceptor aircraft, the application of “optimum cruise” will normally ensure sufficient overtake during the “join−up” phase. Assign an altitude which is either the altitude of the hijacked aircraft or the optimum altitude requested by the escort aircraft pilot when the hijacked aircraft is at a lower altitude. Descend the escort aircraft to the altitude of the hijacked aircraft prior to reaching a point 30 miles from the target. When the hijacked aircraft is at a low altitude where communications between the escort aircraft and the control facility would be questionable, a second escort aircraft (which will normally be available when NORAD interceptors are being utilized) may be stationed at a higher altitude near the hijacked aircraft’s position for relay of information between the control facility and the escort aircraft maintaining visual surveillance.

7−2−7. POSITIONING INSTRUCTIONS
Unless the escort pilot has a visual contact, plan the join−up at 30 miles and issue positioning instructions.
EXAMPLE—
“Echo Golf One Two, when contact is established, maintain surveillance. Approach no closer than five miles directly behind. Remain out of sight from cockpit or cabin, and report all actions observed.”

NOTE—
The pilot will advise you when the hijacked aircraft has been acquired on airborne radar (if his/her aircraft is so equipped) and when visual contact has been achieved.

7−2−8. TERMINATION HEADING
When terminating the escort for purposes of recovery, repositioning, refueling, etc., issue a heading of at least 90 degrees from the hijacked aircraft’s heading.
Section 3. Replacement/Recovery of Escort Aircraft

7–3–1. REPLACEMENT RESPONSIBILITIES
Replacement of escort aircraft which must be recovered prior to hijack mission termination will be accomplished automatically by the military. To aid the military in planning for replacement aircraft and recovery airfields, “fuel state” shall be obtained from the pilot and relayed as requested. Replacement aircraft, if available, will be dispatched to assume the airborne escort role prior to the initiation of recovery procedures. When the escort aircraft is being controlled by an ARTCC/CERAP and replacement requirements are made known, the ARTCC/CERAP controlling the aircraft shall coordinate the replacement with the applicable NORAD Region/SOCC/ROCC as required. The hijack coordinator will be advised of replacement actions.

7–3–2. RECOVERY RESPONSIBILITIES
Recovery requirements and the selection of the recovery field is the responsibility of the military command. The hijack coordinator will advise the ARTCC/CERAP controlling the escort when the escort is to be terminated. The facility will coordinate the recovery with the NORAD Region/SOCC/ROCC. The ARTCC/CERAP will relay to the pilot recovery decisions received from the NORAD Region/SOCC/ROCC; i.e., recovery base, base weather, and frequently inform the pilot of his/her position in relation to the selected recovery field.

7–3–3. RETURN–TO–BASE
Return–to–base shall be accomplished under FAA control. Escort aircraft under military control when the escort mission is terminated will be transferred to FAA control as soon as practicable.

7–3–4. REFueling OPERATIONS
When refueling operations are conducted, the procedures in Chapter 10 shall apply.
Section 4. Forwarding Information

7−4−1. FAA HEADQUARTERS REQUIREMENTS
FAA facilities shall respond to directions issued by the FAA hijack coordinator concerning hijack incidents and keep Emergency Operations Staff (ADA−20) informed of the progress of the escort missions. ADA−20 will establish communications conferencing as required.

7−4−2. POSITION REPORTS WITHIN NORAD RADAR COVERAGE
When the hijacking activity is within coverage of the NORAD surveillance system, position reports will be forwarded to the Cheyenne Mountain AFB/ADOC by NORAD units. To facilitate NORAD tracking, every attempt shall be made to ensure that the hijacked aircraft is squawking Mode 3/A, code 7500. The NORAD control facility shall be advised if the hijacked aircraft is squawking a different transponder code. The NORAD control facility will also be advised of the Mode 3/A code setting assigned to hijack escort aircraft when other than NORAD interceptor aircraft are being employed. This would assist NORAD control facilities in monitoring the ongoing situation when non–NORAD resources are used.

7−4−3. POSITION REPORTS OUTSIDE NORAD RADAR COVERAGE
When the hijacking activity takes place outside NORAD radar coverage within the continental United States, the ARTCC/CERAP controlling the activity shall forward position reports to the appropriate NORAD/SOCC/ROCC Senior Director. The position reports shall be forwarded as follows:

a. The initial report from the ARTCC/CERAP to the NORAD/SOCC/ROCC Senior Director shall include the following:

1. Call sign of the hijacked aircraft.
2. Time (UTC).
3. Position in latitude and longitude.
4. Heading.
5. Speed.
6. Altitude.
7. Position of escort aircraft with respect to hijacked aircraft, if requested.

   EXAMPLE–
   “Universal Four Thirty−one, one seven three zero zulu, position, 34°26′N − 81°03′W, heading one seven five, true airspeed four eight zero knots, flight level three seven zero.”

b. Subsequent reports shall include all of the items in subparagraph a, above, except that items 4, 5, and 6 shall only be reported if different from the initial information.

c. When control of the hijacked aircraft is transferred to another ARTCC/CERAP, the transferring facility shall notify the ATCSCC.
Section 5. Mission Termination

7−5−1. TERMINATION AUTHORITY
The escort mission may be terminated by FAA Headquarters, the National Military Command Center, or major military command authority. Termination of the mission shall be relayed to the escort aircraft by the controlling facility.

7−5−2. OVERFLIGHT CLEARANCE
Escort aircraft shall not be cleared to overfly boundaries of foreign countries other than Canada without overflight approval. The appropriate air traffic control facility will be informed of overflight approval prior to the hijacked aircraft exiting U.S. airspace. When the escort aircraft is being controlled by an FAA facility, overflight approval will be received through the FAA hijack coordinator. The pilot shall be informed of the overflight approval upon receipt.
Chapter 8. Antidrug Operations

Section 1. General

8–1–1. PURPOSE
NORAD is tasked to detect and surveil suspect drug smuggling aircraft until an appropriate law enforcement agency assumes responsibility.

8–1–2. REQUESTS FOR SERVICE
NORAD will respond to unidentified and/or suspicious air activity penetrating or operating within the ADIZ. NORAD will also respond to requests from U. S. Customs Service and/or other appropriate law enforcement agencies for airborne surveillance of suspect drug smuggling aircraft in the ADIZ and/or overland with FAA concurrence and support.

8–1–3. HANDLING PRIORITY
a. Priority and special handling will be afforded aircraft participating in drug interdiction missions to the extent that this priority does not derogate safety.

b. The FAA Authorization For Interceptor Operations (AFIO) shall not be invoked.

8–1–4. RESPONSIBILITIES
The Air Defense Control Facility (ADCF) shall be responsible for providing position information on the suspect aircraft to the ARTCC/CERAP, who will initiate tracking to facilitate mission accomplishment. Where no direct communications circuits exist between the ADCF and a terminal ATC facility, the ARTCC/CERAP shall provide a point out to the terminal controller when requested by the ADCF.

a. International Airspace.
When the suspect aircraft is in international airspace, ATC will control the departure phase of the mission and, when clear of IFR traffic, release control of the surveillance aircraft to the appropriate ADCF. The ADCF will control the aircraft during the intercept and surveillance phase of the anti−drug mission while in international airspace.

b. Domestic Airspace.
1. When the suspect aircraft is within domestic airspace, the ATC facility will control the surveillance aircraft during all phases of the mission. If ATC cannot provide IFR services requested by the surveillance aircraft, for any reason, the controller shall inform the pilot and, if appropriate, offer an amended clearance. The pilot may elect to remain within the ATC system and accept an amended clearance, cancel IFR and proceed under visual flight rules, or terminate the surveillance mission and return to base.

2. When tanker aircraft are employed, they shall be under ATC control. During refueling operations, appropriate aerial refueling procedures shall apply and both the surveillance aircraft and the tanker shall be under ATC control or within pre−coordinated airspace under military control.

3. When the surveillance aircraft is under ATC control, standard air traffic control separation shall be applied. In no case shall any clearance or instruction to the aircraft compromise minimum ATC standards.

c. Canadian Airspace.
Surveillance aircraft entering Canadian airspace from the United States shall be transferred to NORAD control in accordance with FAA/NORAD procedures prior to the aircraft entering Canadian airspace. Surveillance aircraft entering the United States airspace from Canada will be transferred from NORAD control in the same manner when transfer of control is effected. When the suspect aircraft is not within the radar coverage of the NORAD system in Canada, the surveillance mission will be discontinued.

8–1–5. SPECIAL AIRSPACE REQUIREMENTS
a. When NORAD is required to conduct surveillance of a suspected drug smuggling aircraft within domestic airspace, special operating airspace and procedures must be employed to assure mission objectives. Controllers, both FAA and military, must be aware of this unique requirement.

1. Normally, two fighter aircraft will be used by NORAD for surveillance operations. Replacement
aircraft may be required for missions of long duration.

2. When the surveillance aircraft establishes contact with the suspect aircraft, the pilot will notify ATC of the initial course to be flown to accomplish the surveillance mission. Changes to this course or the assigned altitude will not be made without ATC clearance.

NOTE—
The course to be flown by surveillance aircraft is dictated by the course being flown by the suspect aircraft. Request for changes in course by the surveillance aircraft can be anticipated when the course changes are made by the suspect aircraft.

3. When the suspect aircraft is operating at a speed of less than 250 knots, fighters may need to maneuver in order to remain behind the suspect aircraft and to maintain continuous radar and/or visual surveillance of the suspect. The maneuver must be requested by the pilot and approved by ATC.

(a) Examples of these maneuvers include, but are not limited to, a left or right hand race track pattern and/or weaving maneuvers behind the suspect aircraft.

(1) A left hand or right hand race track pattern requires a 2000 foot block of airspace and is flown with the off-course fighter descending to 1,000 feet below the altitude of the on-course fighter and proceeding to a position so as to be re-established inbound, on-course, within 20 nautical miles (NM) of the lead aircraft. The lateral airspace limits required to contain the left or right hand race track pattern will normally be approximately 5 miles either side of the track center line.

(2) A weaving maneuver is flown in a lead-trail formation with 2 NM between the lead surveillance aircraft and his/her wingman. The lateral airspace required to contain this maneuver will normally be 2 NM either side of the track centerline.

4. When two or more DOD aircraft are used in the surveillance mission, the military assumes responsibility for separation of DOD aircraft (MARSA) participating in that mission.

8–1–6. AIR/GROUND COMMUNICATIONS SECURITY

Except when air safety is the primary consideration, every precaution shall be taken to prevent the suspect aircraft from gaining knowledge that a surveillance mission is being conducted. ATC shall use discrete UHF frequencies whenever possible for communication with the surveillance aircraft and shall not simultaneously broadcast drug surveillance information on VHF frequencies where equipment configuration will permit independent UHF frequency operations.

8–1–7. WEATHER/FLIGHT SAFETY LIMITATIONS

If weather conditions or flight safety factors make the surveillance mission impractical, the mission may be terminated by the pilot, and the appropriate ADCF shall be advised immediately.

8–1–8. TWO–WAY RADIO COMMUNICATIONS FAILURE

a. Unless otherwise specified by ATC or the pilot, the IFR clearance limit for aircraft engaged in counter-drug surveillance missions shall be the base of departure. Since the return route of flight to the base of departure will normally not be known and, in some instances, fuel considerations may prohibit return to base of departure, ATC will consider surveillance aircraft with two–way radio communications failure as an emergency and afford appropriate priority.

b. In the event of two–way communications failure, the surveillance aircraft pilot shall set the Mode 3/A transponder code 7700. If in visual meteorological conditions (VMC), proceed VFR to landing, or if in instrument meteorological conditions (IMC), maintain last assigned altitude/flight level/minimum altitude/flight level for the route segment being flown, proceed to the base of departure, and land.
Section 2. Departure Procedures

8–2–1. FACILITY NOTIFICATION

The NORAD Sector Operations Control Center (SOCC) initiating a scramble/airborne order for a drug interdiction mission shall notify the appropriate ATC facility as early as possible and file an IFR flight plan stating that the flight is a counter–drug surveillance mission. The ATC controller entering the flight plan into the ATC system shall insert the appropriate FAA Order 7110.67, code word as the first entry in the remarks section of the flight plan or transmit it verbally during coordination between ATC facilities or controllers and between ATC facilities and NORAD facilities to insure proper identification of drug interdiction missions. Pilots/controllers may use the code word in air/ground communications when the situation warrants, but generally should avoid using this code word to prevent compromising the mission.
Section 3. Surveillance Procedures

8-3-1. INTERCEPT RESPONSIBILITY AND POSITIONING INSTRUCTIONS

a. ATC is not responsible for conducting intercepts. However, ATC should assist the pilot in attaining a position where the surveillance aircraft can acquire the suspect aircraft on airborne radar or visual contact that will permit the pilot to accomplish the intercept.

b. Upon pilot request, the controller shall provide target heading, relative range, bearing and altitude information, if known, of the suspect aircraft.

c. The pilot will advise ATC when the suspect aircraft has been acquired on airborne radar (if his/her aircraft is so equipped) and/or when visual contact has been achieved. Further positioning instructions are not required.

8-3-2. ATC CLEARANCE REQUIREMENTS

a. Surveillance aircraft should be routed or vectored to a position approximately 10 miles directly behind the suspect aircraft to avoid the possibility of being observed.

b. At 30 nautical miles, the pilot normally will request an altitude acceptable for the surveillance mission. Fighter aircraft should be positioned within 5,000 feet of the suspect aircraft’s known altitude, preferably above, but may be any altitude requested by the pilot.

c. When the suspect aircraft is at a low altitude where communications between the surveillance aircraft and the control facility may be questionable, a higher altitude may be assigned with a greater distance in-trail provided for the surveillance aircraft.

8-3-3. RADAR REQUIREMENTS

Surveillance aircraft must be in radar contact at all times. However, when the pilot of the surveillance aircraft has the suspect aircraft in visual or radar contact, the mission may continue without ATC radar contact of the suspect aircraft.

8-3-4. TERMINATION HEADING

When terminating the surveillance mission for purposes of recovery, repositioning, refueling, etc., issue a heading of at least 90 degrees from the suspect aircraft’s heading.
Section 4. Replacement/Recovery of Aircraft

8–4–1. REPLACEMENT RESPONSIBILITIES
The military is responsible for determining requirements to replace surveillance aircraft which must recover prior to termination of the mission. When requested by the military, ATC shall obtain fuel states from the pilot and relay them to the appropriate ADCF. Replacement aircraft, if available, will be dispatched to assume the airborne surveillance mission prior to the initiation of recovery procedures. If the surveillance aircraft is being controlled by the ATC when replacement requirements are made known, the ADCF shall coordinate replacement with the appropriate ATC facility.

8–4–2. RECOVERY RESPONSIBILITIES
Recovery requirements and the selection of the recovery field is the responsibility of the military. ATC shall relay recovery decisions received from the military command, relay weather conditions, and inform the pilot of his/her position in relation to the selected recovery field.

8–4–3. RETURN–TO–BASE (RTB)
RTB will be accomplished under ATC control. Surveillance aircraft under ADCF control when the surveillance mission is terminated will be transferred to ATC control as soon as practical. RTB may be accomplished under VFR.

8–4–4. REFUELING OPERATIONS
When refueling operations are conducted, the procedures in Chapter 10 shall apply.
Section 5. Forwarding Information

8–5–1. POSITION REPORTING REQUIREMENTS

a. When the suspect aircraft is within coverage of the NORAD surveillance system, position reports are not required unless specifically requested by NORAD.

b. When the surveillance mission is within the National Airspace System, but outside the coverage of the NORAD surveillance system, the ATC facility controlling the activity will make position reports to the appropriate NORAD facility, as requested. This will assist NORAD in monitoring the ongoing situation and in making necessary command and control decisions appropriate to the mission in progress.
Chapter 9. Military Operations Requirements

Section 1. Criteria

9–1–1. PURPOSE
This chapter prescribes policy, criteria, administrative and operating procedures pertaining to airspace for military operations/training activities during planned exercises and daily training missions/research, development, test and evaluation (RDT&E).

9–1–2. POLICY
The FAA recognizes that the military has a continuing requirement to conduct certain training and RDT&E activities within airspace as free from other aircraft as is practicable. Therefore, certain special military training and/or RDT&E operations shall be conducted within ATC assigned airspace (ATCAA), Altitude Reservation (ALTRV), military operations areas (MOA), restricted areas, warning areas, and IFR military training routes (IR) so that these activities are separated from other IFR traffic in controlled airspace. Flights to/from such areas shall be under the control of either FAA or military ATC facilities to the maximum extent possible. The policies and procedures for designating special use airspace (SUA) are contained in FAA Order 7400.2, Procedures for Handling Airspace Matters.

9–1–3. AIRSPACE DESCRIPTION
Airspace utilized for military operations shall be described in terms of lateral and vertical dimensions and specific times of use. In developing the dimensions and times of use for SUA and ATCAA descriptions, apply the criteria contained in Chapter 21, Section 2, of FAA Order 7400.2, Procedures for Handling Airspace Matters.

9–1–4. LIMITATIONS

a. The designation of SUA or ATCAA shall be limited to the minimum number of areas necessary to support operational requirements.

b. To the extent possible, the area shall be designed so as to accommodate the maximum number of different types of military activities in the same airspace area. The military shall provide procedures for joint–use scheduling in an area.

c. To facilitate joint–use of SUA/ATCAA, activation shall be limited to the minimum area, altitude, and time required for the activity/mission.

9–1–5. LETTERS OF AGREEMENT/PROCEDURE

a. Letters of agreement/procedure governing SUA shall include as a minimum:

1. Scheduling procedures and positive updating, to include requirement and time parameters for providing these updates to the schedule.

2. Activation/deactivation procedures.

3. Activation/deactivation times.

b. The letters of agreement/procedure governing special conditions of use and procedures for each SUA and ATCAA areas shall be authorized (signed) by the affected ATC facility manager and the military representative of the originating/scheduling activity.

c. Each SUA/ATCAA area will have a designated military office responsible for scheduling all military activities within that area. Areas shall not be used for military activities unless scheduled by the responsible military office.

d. When the use of SUA/ATCAA has been requested in accordance with agreed upon procedures, the military scheduling unit is responsible for determining priority of use and for advising all users of the operational procedures restrictions or other conditions contained in the letters of agreement/procedure.
Section 2. ATCAA and MOA Procedures

9−2−1. REQUIREMENT

a. Each ATCAA/MOA shall have a designated military unit responsible for scheduling all military flights intending to use the airspace. If the designated military unit does not have a continuous point of contact; i.e., a unit subject to deployment or a unit not available during normal work days (Air National Guard unit working Wednesday through Sunday), then an alternate scheduling agency will be designated. ATCAA/MOAs shall not be used for military training/RDT&E unless scheduled by the scheduling agency.

b. Procedures governing operations within ATCAAs and MOAs shall be specified in letters of agreement authorized (signed) by the controlling facility Air Traffic manager, and the military representative of the originating/scheduling agency (primary or alternate). The alternate scheduling agency will have the same responsibilities as the primary scheduling agency. Procedures shall be developed to ensure continuity of scheduling functions so that the primary and alternate scheduling agencies do not schedule airspace simultaneously.

9−2−2. SUBMISSION OF AIR TRAFFIC CONTROL ASSIGNED AIRSPACE (ATCAA) DATA

Submit data on all ATCAAs used on a continuing/constant basis, and any subsequent changes to the ATCAA database to ATP−200 and ATA−100 for the purpose of updating the Special Use Airspace Management System (SAMS) and Aeronautical Information System. Include the following as applicable:

a. A regional ATD transmittal memorandum containing a brief overview of the ATCAA, and/or changes to, FAA headquarters, ATP−200 and ATA−100. Summarize the ATCAAs or any amendments made to ATCAAs including additional changes, etc.

b. A separate attachment that contains a description of the area to include latitude/longitude points, boundaries, altitudes, times, controlling agency, using agency, and any other relative information.

NOTE−
If only part of the description of an existing area is being amended, the attachment should show just the changed information rather than the full legal description.

c. A sectional aeronautical chart depicting the final boundaries of the proposed area, including any subdivisions.

d. Any other information that should be considered by FAA headquarters.

NOTE−
ATCAA descriptive data will normally be submitted 9 weeks prior to requested/required airspace effective date.

9−2−3. USING AGENCY RESPONSIBILITIES

When the use of an ATCAA/MOA has been requested, as specified in the letter of agreement, the using agency shall:

a. Determine priority of use and advise all users of the pertinent procedures contained in the letter of agreement.

b. Establish a real−time activity schedule indicating airspace use times and forward the schedule and any subsequent changes to the controlling agency.

c. Develop procedures with the military using units to ensure that they inform the scheduling agency, as soon as possible, of any periods of nonuse (1 hour or longer) after the initial schedule has been established.

NOTE−
Efficient management of ATCAA/MOAs requires that activity schedules reflect the real−time use of the airspace. After the initial activity schedule has been coordinated and established, maintenance problems, weather conditions, etc., can cause military using units to cancel previously scheduled missions. To provide the FAA and the civil airspace users with actual (real−time) ATCAA/MOA activity schedules it is essential that the military using units inform the scheduling agency of those unscheduled periods of nonuse so that the information can be disseminated to all interested parties.
9–2–4. CONTROLLING AGENCY RESPONSIBILITY

The controlling agency (normally an ARTCC), shall forward the MOA activity schedule for other than published times to all FSSs whose flight plan area is located within 100 NM of the MOA perimeter. Operational requirements may necessitate notifying FSSs beyond the 100 NM perimeter. The MOA activity schedule for other than published use times shall be forwarded at least 2 hours prior to the beginning of the planned activity.

9–2–5. ATC CONTROL WITHIN ATCAAs AND MOAs

ATCAAs and MOAs may be controlled by an ATC facility. Every effort should be made to provide IFR service within these areas when requested by the military:

- **a.** When IFR service is provided by the ATC facility within the area, the separation within the area is the responsibility of the ATC facility unless MARSA is established in accordance with para 1–4–8, Use of Military Authority Assumes Responsibility for Separation of Aircraft (MARSA).

- **b.** The pilot when cleared into the area is responsible for remaining within the area, whether VFR or IFR; however, the ATC facility should assist the pilot when the aircraft is under its control.

9–2–6. NONRADAR AND COMMUNICATIONS

ATCAAs and MOAs may be established in airspace where radar and/or direct communication is not available. Procedures concerning these areas shall be specified in a letter of agreement.

9−3−1. OPERATION OF AIRCRAFT ARRESTING SYSTEMS

These instructions are applicable only at joint−use FAA locations which employ the USAF web barrier and hook cable arresting systems. Normally, the barriers will be maintained in the down position. However, at those locations where appropriate local military authority determines that the barrier/cable must be maintained in a raised position due to existing or forecasted freezing weather conditions or temporary malfunctioning of the activating mechanism, the FAA facility shall:

a. Issue a Notice to Airmen (NOTAM) advising that the barriers/cable is in the raised position. This is in addition to the military outage NOTAM required by barrier agreement and appropriate Air Force Instructions, but they may be combined where feasible.

b. Notify the appropriate Flight Standards District Office (FSDO).

9−3−2. ARRESTING SYSTEMS CONTROL PANELS

FAA requires that the USAF provide adequate lights and controls in the tower cab at all locations with installed barriers/cables. The following minimum requirements have been established with regard to tower cab barrier control panels:

a. Switches or control buttons shall be safely covered to prevent accidental activation.

b. The arresting system position lights installed in the tower shall be of sufficient intensity to be seen in full daylight and shall give positive indication of barrier/cable position “up” or “down” and not just that power has been applied to the erecting mechanism. Lack of power indication shall be considered a malfunctioning of the system, and the control of aircraft shall be conducted in accordance with raised arresting system instructions contained herein.

9−3−3. ACTION REQUIRED BY FACILITY AIR TRAFFIC MANAGER

The following action is required by the facility Air Traffic manager:

a. A letter of agreement for the operation of aircraft arresting systems shall be drafted and approved by the FAA regional office and the appropriate military commander. This agreement is not effective until such time as the facility air traffic manager is advised in writing by the military commander that the arresting system is available as specified in the letter of agreement.

b. Operational agreements for aircraft arresting systems are not restricted to, but must include, the following information:

1. This agreement shall become effective when the FAA facility air traffic manager receives notice in writing from the base commander that:

   (a) The barrier/cable has been accepted from the contractor and is commissioned and fully operational; or

   (b) The barrier/cable is available on a limited basis for emergency use. In the event the barrier/cable has not been accepted from the contractor, this notification must be accompanied by a written statement from the contractor authorizing the emergency use of the barrier/cable and waiving any claim against the FAA for damage to the arresting system as the result of such use.

   (c) A Notice to Airmen has been issued specifying conditions in (a) and (b).

   (d) Prior to the receipt of the foregoing letter from the base commander, the tower arresting system controls shall be de−energized by the military and placarded “INOPERATIVE” by the chief controller and shall not be activated by tower personnel under any circumstances.

   (e) During unscheduled outages due to failure of tower controls or control lines to the facility or upon notification by tower personnel of a malfunction of
the barrier/cable mechanism or remote control system and if the military desires the arresting system to be raised and lowered, the military crew at the barrier/cable site shall have full and final responsibility for operating the arresting system. The arresting system crew shall maintain a listening watch on appropriate air/ground frequencies and have transmit/receive capability with the tower on the ground control frequency in order to keep tower personnel informed of the position of the arresting system.

e. To eliminate a requirement for the pilot to change from the controlling agency frequency where ground controlled intercept/ground controlled approach (GCI/GCA) hand−offs are employed, the tower shall operate the arresting system at the request of the GCA unit. Where an approach control facility releases aircraft to a GCA unit, the tower at the airport of destination shall operate the arresting system at the request of the approach control unit or the GCA unit at the destination airport.

f. If malfunctioning of the barrier/cable mechanism or remote control system occurs, tower personnel shall notify base operations immediately.

9−3−4. PUBLICATION OF INSTALLATION

The local military authority will initiate action to notify the National Flight Data Center (NFDC) and the St. Louis Air Force Station, Missouri 63118 of the original commissioning. Subsequently, this information will be published in the National Flight Data Digest and the Flight Information Publication Supplement.

9−3−5. LIABILITY AGREEMENTS FOR ARRESTING SYSTEMS

Liability agreements between the Air Force and the FAA at each joint−use civil airport where an airport arresting system device is installed are not required. Since the FAA acts for and on behalf of the Air Force in operating the equipment for military aircraft, the Air Force has assumed responsibility for any claim resulting from such operation by the FAA or from the Air Force or the Air National Guard maintenance of the system. Liability for any damage arising from the operation of the system by the FAA for civil aircraft is the responsibility of the FAA.

9−3−6. SINGLE FREQUENCY APPROACH (SFA)

When SFA procedures are implemented by terminal facilities providing radar approach control service to airports where military single−piloted turbojet aircraft are regularly based, ensure that the following conditions are met:

a. Communications capability will meet normal demands without increasing aircraft delays.

b. At least five discrete UHF frequencies are available for this use.

c. The radar approach controller retains jurisdiction over the rotation of three frequencies between himself and the GCA controller.

d. A letter of agreement is consummated by the FAA facility Air Traffic manager with local military authorities covering ATC procedures, use of frequencies, etc.

9−3−7. SIMULATED FLAMEOUT (SFO)/EMERGENCY LANDING PATTERN (ELP) OPERATIONS

At locations where SFO/ELP maneuvers are conducted, the facility air traffic manager shall issue a letter of agreement with the appropriate military authority and adjacent facilities as required. The letter of agreement shall include at least the following issues:

a. A complete description of the SFO/ELP procedure. (High−key altitude MSL, airspeed during procedure, direction of turns, and low−key altitude MSL will be obtained from the military for all types of aircraft planning to utilize this procedure. The SFO/ELP maneuvering airspace area should be visible from the normal local control position in the control tower.)

b. The weather conditions that must exist before issuance of approval by the tower. (Ceiling must be at least 1,000 feet above the approved high−key altitude, and flight and ground visibility must be reported to be at least 5 miles.)

c. A statement to the effect that a practice SFO/ELP may be disapproved because of traffic or other reasons either before or after the start of the maneuver.
d. A statement that a practice SFO/ELP will be approved only between sunrise and sunset.

e. A statement indicating that provision of this service by the tower does not in any way absolve the pilot from his/her responsibility to comply with 14 CFR parts 91.111 and 91.113, other appropriate subparts of 14 CFR part 91, and/or applicable military regulations.

f. Pilots utilizing SFO/ELP procedures in U–2 and TR–1 aircraft are authorized to deviate from the weather conditions prescribed in subpara b as follows:

1. Ceiling must be at least 500 feet above the approved high–key altitude; and

2. Flight and ground visibility must be reported to be at least 3 miles.

**NOTE—**
SFO/ELP procedures conducted above 10,000 feet MSL shall be in accordance with 14 CFR part 91.155.

### 9–3–8. CELESTIAL NAVIGATION (CELNAV) TRAINING

a. Within conterminous U.S., CELNAV training is restricted to transponder–equipped aircraft within areas of ARTCC radar coverage.

b. Because CELNAV training procedures require a pilot to deviate from the course requirements of 14 CFR 91.181, pilots shall obtain ATC approval before discontinuing conventional navigation to begin CELNAV training.

c. Pilots are also required to advise ATC when discontinuing CELNAV training and resuming conventional navigation.

d. Pilots engaged in CELNAV training shall advise ATC before initiating any heading change of more than 20 degrees.

e. Pilots shall remain within 30 NM of the assigned course unless otherwise authorized by ATC.

f. ATC approves flight plans specifying CELNAV only when requested for USAF or USN aircraft.
Chapter 10. Aerial Refueling

Section 1. General

10−1−1. PURPOSE

This chapter sets forth policy and criteria for the establishment of aerial refueling tracks and anchors and the air traffic control aspects of refueling operations. Administrative guidelines are also provided concerning the design, development, coordination, and publication of aerial refueling tracks and anchors on a global basis. Effective utilization of this information will permit aerial refueling to be conducted with a minimum of planning and will ensure maximum utilization of airspace. Refueling tracks/anchors are published in DOD FLIP and have been established for universal use by all military services.

10−1−2. OBJECTIVE

Approved FAA/U.S. military ATC procedures and separation standards will apply between military aerial refueling operations and other airspace users. In order to provide for the safe and efficient conduct of refueling operations, aerial refueling tracks/anchors will be planned to have a minimal impact on the air traffic system and still satisfy user needs.

NOTE− Approval of an aerial refueling tract/anchor shall not preclude ATC from using such airspace after the completion of the rendezvous, provided that separation is applied in accordance with FAA Order 7110.65 between nonparticipating aircraft and participating aircraft within the aerial refueling track/anchor.

10−1−3. RESPONSIBILITY

The U.S. military services have agreed, to the maximum extent possible, aerial refueling will be conducted on existing published tracks/anchor tracks and to conduct aerial refueling operations in accordance with the provisions of this chapter which provides standard guidance for all user commands involved in refueling operations.

10−1−4. SEPARATION

Standard separation (in accordance with FAA Order 7110.65) will be applied to aerial refueling aircraft.

10−1−5. DEVIATIONS

FAA regional air traffic division managers (theater commanders in areas not under FAA jurisdiction) may authorize deviations from provisions of this chapter when military requirements cannot be supported within the established standards. Approved deviations shall be fully coordinated and should contain provisions to ensure a level of safety equivalent to standards set forth in this chapter.

NOTE− Theater commanders must comply with host nation requirements.

10−1−6. CHRONOLOGY

The following is a basic chronology of the events for a typical air refueling operation in tracks and anchors. The exact sequence may vary as dictated by operational circumstances. For air refueling tracks, the en route rendezvous differs from the point−parallel rendezvous (see subparagraph 10−5−4a, 5(a)) only in that the tanker does not delay at the air refueling control point (ARCP) and both tanker and receiver aircraft enter the aerial refueling airspace simultaneously.

a. Aerial Refueling Track.

NOTE− Normally, the tanker aircraft enters the track at the ARCP, and the receiver aircraft enters at the air refueling initial point (ARIP).

1. Tanker requests delay at the ARCP and advises ATC of the requested aerial refueling block altitudes.

2. ATC approves delay and issues clearance, or advises tanker to expect clearance, for the air refueling block.

NOTE− If the delay is approved, the aircraft will enter the refueling pattern. If a hold is issued, aircraft will enter a standard holding pattern or as assigned by ATC.
3. Tanker enters orbit pattern airspace for delay at ARCP.

**NOTE—**
*If no clearance is received, aircraft will hold in the direction of the air refueling pattern until their filed air refueling control time (ARCT). If no clearance is received by the ARCT, the aircraft will proceed down the AR track on its flight plan route; refueling is not authorized.*

4. Receivers are cleared to requested altitude and IFR separation is established prior to ARIP and release to tanker communication rendezvous (C/R) frequency.

5. Tanker declares MARSA.

6. ATC releases receiver to tanker C/R frequency not later than the ARIP.

7. ATC issues clearance to conduct aerial refueling along the track, and issues block altitude clearance, if not previously accomplished.

8. ATC shall ensure that nonparticipating aircraft remain clear of the area until the rendezvous is complete.

9. Tanker and receiver aircraft complete rendezvous and proceed down track. During aerial refueling, the tanker is responsible for receiver aircraft navigation along the track and for all tanker/receiver communications with ATC.

10. Tanker advises ATC of tanker and receiver end aerial refueling altitude requests at least five (5) minutes prior to exit.

11. At or prior to the exit point, ATC issues tanker and receiver altitude clearances, transponder codes, and if requested, amended routing.

12. Prior to exit, tanker vertically positions the aircraft in the formation within the air refueling airspace to facilitate breakup at the exit point (normally, tanker at highest altitude of aerial refueling block and receiver at lowest altitude).

13. MARSA is terminated when standard ATC separation is established and ATC advises MARSA is terminated.

b. Anchor Aerial Refueling.

1. Anchor aerial refueling operations involve the same basic procedural elements as required for track refueling, except that both tanker and receiver aircraft file a delay in the anchor area and all air refueling activity is conducted within the anchor as per paragraph 10−3−2, Navigation within Anchor Area.

2. Additional requirements, such as, alternate entry/exit points, MRU procedures, etc., shall be specified in a letter of agreement, as required.
Section 2. Track Requirements

10−2−1. DESCRIPTION

a. Aerial refueling tracks are established to accommodate refueling operations along a prescribed route. An aerial refueling track consists of an ARIP, ARCP, and an exit point. Navigation check points between the ARCP and exit point are specified, as required, to facilitate navigation along the route. It also includes the tanker orbit pattern at the ARCP, and the altitude block(s) assigned for the track.

b. Instructions for preparing and submitting track proposals are contained in Section 4 of this chapter.

10−2−2. NAVIGATION ALONG AIR REFUELING TRACK

Navigation along an aerial refueling track shall be accomplished using a combination of airborne equipment and NA V AIDS as appropriate.

NOTE—Whatever the method of navigation, participating aircraft shall be expected to adhere to the course centerline during aerial refueling operations unless deviations within/beyond the track are specifically approved by the ARTCC/CERAP, or are authorized in a procedural letter of agreement with the controlling agency.

10−2−3. ARIP ESTABLISHMENTS

The ARIP shall be established:

a. At a distance from the ARCP which shall meet the requirements of the primary user command.

b. Within 30 degrees either side of the extended centerline of the track on which the actual air refueling operation is to be accomplished.

c. Within the same ARTCC/CERAP area as the ARCP whenever practical.

d. So as to provide for a direct course between the ARIP and ARCP.

10−2−4. DEGREE−DISTANCE TRACK DEFINITION

a. Tracks predicated on degree−distance track definition shall provide:

1. A means of navigation from the ARIP to the exit point via a usable NA V AID radial/distance or along offshore extended routes.

2. A means of navigation from at least one navigational checkpoint or from the exit point to proceed IFR en route via a usable NA V AID.

b. Tracks located over water or in remote areas or beyond the range of fixed NA V AIDs shall be predicated on geographical coordinate route definition with suitable navigation means provided by the user command.

10−2−5. TANKER ORBIT PATTERNS

The following describes typical orbit patterns for jet aircraft and turboprop/conventional type aircraft.

a. Turbojet − Normally, a rectangle 60 NM long (48 NM uptrack and 12 NM downtrack from ARCP or anchor point) and 25 NM wide, oriented longitudinally along the ARIP−ARCP or anchor point segment of the track so as to provide 7 NM of airspace on the non−holding side of the refueling track and 18 NM of airspace on the holding side. This pattern shall normally be designed for left turns. When right turns are used, the orientation of the orbit pattern will shift accordingly. (See FIG 10−2−1, Components of a Typical Turbojet Aerial Refueling Track.)

b. Conventional/Turboprop − Normally, a rectangle 34 NM long (27 NM uptrack and 7 NM downtrack from ARCP or anchor point) and 18 NM wide, oriented longitudinally along the ARIP−ARCP or anchor point segment of the track so as to provide 4.5 NM of airspace on the non−holding side of the refueling track and 13.5 NM of airspace on the holding side. The pattern shall normally be designed for left turns. When right turns are used, the orientation of the orbit pattern will shift accordingly. (See FIG 10−2−2, Components of a Typical Conventional/Turboprop Aerial Refueling Track.)
Section 3. Anchor Requirements

10–3–1. DESCRIPTION

a. The standard aerial refueling anchor pattern consists of a left-hand race track orbit with legs at least 50 NM in length. The legs will normally be separated by at least 20 NM. The orientation of the pattern is determined based on the inbound course to the anchor point. Four turn points are designated to describe the anchor pattern. (See Figure 10–3–1.)

NOTE–
1. An anchor pattern may be designed with legs greater than or less than 50 NM in length provided all parties agree that the length is sufficient for the proposed operation and that the refueling operation can safely be conducted within the confines of assigned anchor area.
2. If other than the standard anchor pattern is used, the ATC facility must develop appropriate non-radar procedures.

b. The standard anchor area consists of one or more entry points, an ARIP, anchor point, anchor pattern turn points, one or more exit points, and the designated refueling altitude block(s).

c. Instructions for preparing and submitting anchor proposals are contained in Section 4 of this chapter.

10–3–2. NAVIGATION WITHIN ANCHOR AREA

Anchor refueling shall be in accordance with the published pattern unless otherwise coordinated with the ARTCC/CERAP, or through a letter of agreement with the controlling agency. Navigation shall be accomplished predicated on one of the following:

NOTE–
Clearance into an anchor area/track does not give aircraft on the track the ATCAA that may be associated with the anchor area/anchor track. Aircrews should specifically request the ATCAA if they need the ATCAA for refueling operations.

a. NAVAIDs while within usable range.

b. Airborne equipment utilizing geographical coordinates in remote areas without NAVAID reference.

c. Radar service provided by a military radar unit either ground-based or airborne.

d. Airborne radar as a secondary operation within the anchor area.

10–3–3. ARIP ESTABLISHMENT

The anchor ARIP shall be established:

a. Normally, a minimum of 70 NM from the anchor point and within 30 degrees either side of the extended anchor point leg at the uptrack end of the anchor pattern.

b. So as to provide for straight-line navigation from the ARIP to the anchor point leg at the uptrack end of the anchor pattern.

NOTE–
Receiver entry at ARIP is not required when random rendezvous procedures have been coordinated prior to track/anchor entry and approved by the tanker commander. All maneuvers required to effect rendezvous must be contained within designated airspace.

10–3–4. DEGREE–DISTANCE ANCHOR DEFINITION

Anchors predicated on degree–distance definition shall provide:

a. A means of navigation from the anchor ARIP to the anchor point via a usable NAVAID radial/distance.

b. A means of navigation from the exit point of the anchor area to proceed IFR en route via a usable NAVAID.

c. Anchor areas located in over water or remote areas or beyond the range of fixed NAVAIDs shall be predicated on geographical coordinate route definition with suitable navigation means provided by the user command.
**Anchor Requirements**

*FIG 10–3–1*

ANCHOR PATTERN

- Tanker Exit Pt
- Tanker Entry Pt
- Receiver Holding Pt
- Receiver Entry Pt
- Anchor Pt
- Inbound Course
- Outbound Course
- Receiver Exit Pt
Section 4. Planning

10–4–1. TRACK/ANCHOR PROPOSALS

Proposals for establishing refueling tracks or anchors shall be submitted in the format and with the data depicted in FIG 10–4–1 to the appropriate ARTCC/CERAP with a copy to the appropriate regional military representative. In those airspace areas not under the direct jurisdiction of FAA, the theater command headquarters shall develop procedures for coordination and approval of proposed tracks and anchors.

10–4–2. COORDINATION

a. The ARTCC which received the request for establishment of an aerial refueling track or anchor shall assume the responsibility for FAA internal coordination, as necessary.

b. In areas not under FAA jurisdiction, the theater command headquarters which received the request for establishment of the track/anchor shall assume the responsibility for ensuring that necessary diplomatic coordination is completed prior to publication/use.

c. In the event the proposed track/anchor lies within special use airspace (SUA) or ATC assigned airspace (ATCAAs), the using agency shall provide assurances, in writing, that air refueling operations will not conflict with other activities being conducted. Correspondence accompanying the initial proposal for refueling track/anchor shall include the written assurance.

10–4–3. CRITERIA FOR ESTABLISHMENT

a. Aerial refueling tracks may be established for use in either direction in sufficient length to satisfy the mission requirement.

b. Parallel tracks may be established provided a minimum of 30 NM exist between track centerlines.

c. Tracks/anchors may be established coincident with, parallel to, or across airways/jet routes as considered appropriate by the ATC facility.

d. Tracks/anchors shall be defined in relation to NAVAIDs by degree–distance reference or by geographical coordinates.

e. Where anchors are established inside SUA or ATCAAs, entry and exit points shall be located on the boundary of the SUA or ATCAA for use as transfer of flight data information points, unless alternate entry and exit points are authorized by ATC.

**NOTE—**
If activation of the ATCAA or SUA is desired for refueling operations, a request shall accompany the initial request for air refueling operations.

f. The scheduling agency for the ATCAA shall ensure that pilots comply with the procedures in the LOA.

g. The receiver entry point (track/anchor) will be the ARIP.

h. The tanker entry point (track/anchor) will be the ARCP/anchor point and should be located to permit direct routing.

i. The following is guidance for establishing simultaneous opposite direction aerial refueling (SODAR):

1. Simultaneous refueling in opposite direction may be authorized between single AR tracks, which are vertically separated by a minimum of 2,000 feet between altitude blocks.

2. If it becomes necessary to assign SODAR aircraft altitude blocks which are outside the vertical limits of the AR tracks, controllers shall ensure a vertical separation minimum of 2,000 feet between assigned altitude blocks.

3. The SODAR procedure is not intended to apply to all refueling tracks (due to airspace configuration, traffic volume, etc.), however, ARTCC/CERAPs are expected to evaluate existing tracks for applicability upon user request.

4. If an existing single AR track qualifies for SODAR, it may be split into two separate tracks, or a new track may be created directly above or directly below the existing track. In either case, the tracks shall be vertically separated by 2,000 feet and each track shall be designated by a separate number.

5. Each published track description shall contain in remarks that it is authorized for simultaneous opposite direction aerial refueling (i.e., “SODAR authorized with AR___”).
6. SODAR tracks should be established for bi-directional use to permit course reversals without requiring altitude changes.

10−4−4. APPROVAL NOTIFICATION

a. After receiving all impacted ARTCC/CERAPs concurrence of an aerial refueling track or anchor, the ARTCC/CERAP in which the AR track is initiated shall forward the Aerial Refueling Track/Anchor Proposal (See FIG 10−4−1), including all information required in FIG 10−4−1 and any other pertinent information to the regional AT division and military representatives.

b. In areas not directly under FAA jurisdiction, the theater command headquarters may, after final coordination and approval, forward the information required by paragraph 10−4−5, Publication in FLIP, directly to National Imagery and Mapping Agency (NIMA) St. Louis for publication.

10−4−5. PUBLICATION IN FLIP

After final coordination the military representative assigned to the FAA regional office shall forward the following information to NIMA for publication:

a. For tracks:

1. Number – The originator of the track/anchor shall obtain a route designator for use during coordination from NIMA/MCBB, Mail Stop L–27, 3200 South 2nd Street, St. Louis AFS, Missouri 63118 by letter, message (NIMA, St. Louis AFS, MO/MCBB), telephone (DSN 693–4636 or commercial 314–263–4636) or FAX (DSN 693–4997 or commercial 314–263–4997). The number in the designator provided by NIMA will be prefixed by an “X”; e.g., AR–X100, to indicate the number to be used for coordination purposes only. The prefix “X” will be deleted when published in FLIP Planning.

2. ARIP – Degree–distance and coordinate values.

3. ARCP – Degree–distance and coordinate values.


5. Exit point – Degree–distance and coordinate values.

6. Communications/Rendezvous Plan – Obtained from HQ AMC TACC/SCOX (DSN 576–3134) by regional military representative if required.

7. Refueling altitudes.

8. Scheduling unit.

9. Assigned ATC facility.

10. Remarks including the list of coordination accomplished.

b. For anchors:

1. Number – Same procedures as in subparagraph a1.

2. Description of anchor area – Coordinates.

3. Entry point(s) – Degree–distance and coordinate values.

4. ARIP(s) – Degree–distance and coordinate values.

5. Exit – Degree–distance and coordinate values.

6. Anchor pattern (four turn points) – Degree–distance and coordinate values.

7. Exit point(s) – Degree–distance and coordinate values.

8. Communications/Rendezvous Plan – Obtained from HQ AMC TACC/SCOX (DSN 576–3134) by regional military representative if required.

9. Military radar call sign and MHz frequencies.

10. Refueling altitudes.

11. Scheduling unit.

12. Assigned ATC facility.

13. Operational time.

14. Remarks, including anchor point, inbound course, pattern width, pattern length, and the list of coordination accomplished.

15. State whether ATCAA is associated with anchor and list the scheduling agency for the ATCAA.
10−4−6. MILITARY REGIONAL REPRESENTATIVE RESPONSIBILITIES

a. Assure that all appropriate DOD and FAA coordination has been accomplished.

b. Obtain a Communications Rendezvous Plan (C/R Plan) from HQ AMC TACC/SCOX (DSN 576–3134), if necessary, and submit the information required in paragraph 10−4−5, Publication in FLIP, to NIMA. The USN regional representative shall submit data to Naval Flight Information Group, Washington Navy Yard, Bldg. 176, 901 M Street SE, Washington, DC 20374–5088.

c. Maintain a master list of all current refueling tracks and anchors (both published and special) that fall within this area of responsibility, scheduling units, and assigned ATC facilities.

d. Ensure that the concerned ATC facilities are aware of the effective date of the track or anchor and any revisions thereto.

10−4−7. NIMA RESPONSIBILITIES

a. Assign track and anchor numbers and provide them to the originator upon request. Each published track or anchor shall be identified by the prefix “AR” followed by a number. Numbers shall be assigned consecutively in their particular group.

b. Should the track or anchor be outside Class A airspace areas, submit the following information directly to FAA National Flight Data Center, (NFDC), 800 Independence Avenue, SW, Washington, DC 20591, for publication on appropriate charts (by NACO) and assume responsibility for updating it as necessary.

1. Designated track or anchor number.

2. Geographical location of the track or anchor using NAVAID degree–distance definitions or geographical coordinates.

3. Location (State).

4. Track beginning.

5. Track end.

6. Altitudes.

NOTE—Alaskan information shall be submitted for inclusion in U.S. Government FLIP Supplement, Alaska.

10−4−8. EFFECTIVE DATE

Refueling tracks and anchors and revisions thereto shall be effective upon the date of the DOD Flight Planning (FLIP) document publication.

10−4−9. REVISIONS TO TRACKS/ANCHORS

Revisions shall be processed in the same manner as new proposals.
AERIAL REFUELING TRACK/ANCHOR PROPOSAL FORMAT

1. TRACK/ANCHOR  2. EFFECTIVE DATE  3. ORIGINATING ACTIVITY  4. SCHEDULING ACTIVITY

Published  
Change  
Cancel  

Published  
Unpublished  

DSN NO.  
COMM NO.  

DSN NO.  
COMM NO.  

5. TRACK NO.  

6. TYPE: [] TRACK [] SPECIAL [] ANCHOR [] VFR [] SODAR  

7. AMIP/ENTRY POINT(S):  

8. ARCP/ANCHOR POINT(S):  

9. ORBIT/ANCHOR PATTERN DESCRIPTION:  

10. RECEIVER HOLDING (NONRADAR)

a. Direction of turns:  

b. Direction of turns:  

c. Direction of turns:  

d. Direction of turns:  

e. Direction of turns:  

11. TANKER ORBIT PATTERN (NONRADAR)  

12. NAVIGATION CHECK POINT(S):  

13. EXIT POINT(S):  

14. CR PLAN/MILITARY RADAR:

a. Exit point(a):  

b. Exit point(b):  

c. Exit point(c):  

d. Exit point(d):  

e. Exit point(e):  

15. SODAR—Direction of Course Reversal Turn  

16. REFUELING ALTITUDES:

17. ATCAA DESCRIPTION:  

a. Times of Operation:

b. Assigned ARTCC:  

AACF:  

18. REMARKS:

19. ATTACHMENTS:

DATE  
OFFICE SYMBOL  
ORIGINATING ACTIVITY  

DATE  
OFFICE SYMBOL  
AIR ROUTE TRAFFIC CONTROL CENTER  

DATE  
OFFICE SYMBOL  
MILITARY/MAJOR/TYPE COMMAND  

DATE  
OFFICE SYMBOL  
REGIONAL MILITARY REPRESENTATIVE

FIG 10-4-1
Section 5. Operations

10–5–1. PROVISIONS FOR CONDUCTING AERIAL REFUELING

a. Aerial refueling is based on the requirement that participating aircraft operate and remain in specifically designated airspace.

1. Departure or other clearances which contain the track or anchor as a route element are not intended to authorize the aerial refueling operation itself.

NOTE—
A further specific ATC clearance for the conduct of aerial refueling is required except on an ALTRV.

2. Throughout the refueling operation, controller initiated heading assignments may not be effected without the concurrence of the tanker.

3. Each aircraft must receive a specific clearance prior to leaving the refueling track/anchor. In the event of no clearance:
   a. The tanker(s) and receiver(s) will continue on the tanker’s filed route and assigned block altitudes until a clearance to separate the flight can be obtained, or
   b. The aircraft will request an extension of the aerial refueling track.

NOTE—
Aerial refueling operations are terminated at the end of the refueling point unless an extension of the aerial refueling track is received.

(c) Aerial refueling operations are normally conducted on tracks or in anchor areas published in the DOD FLIP document “AP/1B.”

b. There are certain mission requirements and operational considerations which may necessitate en route refueling operations or the establishment of special tracks/anchors not published in the FLIP document or in MOA/ATCAA/joint-use restricted areas when covered in letters of agreement.

1. En route refueling may be conducted between aircraft within a flight when the refueling is performed within the flights assigned altitude block/airspace. When this occurs, the ARTCC/CERAP will be advised prior to commencing air refueling operations.

2. When special tracks/anchors must be established, the command processing the receiver aircraft shall ensure compliance with the provisions set forth in Section 6 of this chapter.

2. All refueling operations shall be conducted on an IFR flight plan at assigned altitudes/flight levels except as provided for in paragraph 10–6–12, Flight Plan Requirements, of this chapter.

c. All aircraft conducting aerial refueling operations should request and be assigned at least three (3) consecutive altitudes/flight levels.

1. Refueling aircraft may use these altitudes/flight levels as required to accomplish refueling operations. If additional altitudes are required to satisfy requirements, prior clearance shall be obtained from the appropriate ATC facility.

NOTE—
Additional altitudes shall not be requested/granted for practice of emergency break-away procedures.

2. The provisions of this paragraph do not apply when aircraft are operating in an ALTRV or when clearance has been granted by ATC for the aircraft to operate as an en route cell formation.

10–5–2. USER REQUIREMENTS

a. The user command requesting the establishment of a track/anchor shall assign to a specific unit the responsibility for scheduling all refueling operations on the track or anchor. The scheduling unit shall review the track/anchor for utilization to determine the need for retention.

b. The FAA or theater command headquarters, as appropriate, shall assign responsibility to a specific Air Traffic facility for coordinating refueling operations with the scheduling unit for each track/anchor.

c. Intermediate commands shall be responsible for developing standardized procedures for use by these units in scheduling refueling operations.

d. Any unit planning to conduct refueling operations shall coordinate each operation with the unit assigned the responsibility for scheduling the track/anchor.
10−5–3. MARSA APPLICABILITY FOR AERIAL REFUELING

a. MARSA begins between the tanker and receiver(s) when the tanker advises ATC that it is accepting MARSA.

b. After MARSA has been declared, controller assigned course or altitude changes prior to rendezvous completion will automatically void MARSA and are to be avoided.

c. Once rendezvous is completed:

1. Headings and altitudes assignments may be made with the tanker concurrence with MARSA remaining in effect.

2. Each tanker shall keep receiver(s) aircraft in either standard or nonstandard formation until further ATC clearances are received and standard separation is achieved.

3. Other nonparticipating aircraft may be cleared through the refueling block airspace with proper separation once the tanker and receiver(s) have proceeded down track.

d. MARSA ends between the tanker and receiver(s) when:

1. The tanker and receiver aircraft are vertically positioned within the air refueling airspace,

2. Standard ATC separation is established, and

3. ATC advises MARSA is terminated.

10−5–4. CRITERIA FOR SCHEDULING

a. Scheduling criteria to ensure adequate airspace for aircraft conducting aerial refueling on tracks shall be as follows:

1. Simultaneous refueling in the same direction:

(a) Authorized for single tracks. A 2,000–foot altitude separation shall be provided between assigned altitude blocks/airspace.

(b) Authorized for parallel tracks which have 30 NM separation between centerlines.

NOTE−
The opposite direction procedure is not intended to apply to all refueling tracks, due to airspace configuration, traffic volume, etc. However, ARTCC/CERAPs are expected to evaluate individual tracks for applicability upon request. The processing of approved requests shall be in accordance with the existing procedures in Section 4 of this chapter.

(c) Authorized for parallel tracks which have 30 NM separation between centerlines.

3. MARSA is applicable between refueling aircraft operating on parallel tracks at the same altitude.

4. When necessary to reverse the direction of use of a track, a mandatory exit time shall be prescribed by the scheduling unit for the last refueling aircraft prior to reversing direction. This exit time shall be the scheduled exit time plus 10 minutes. A 25–minute sterile time shall be added to the mandatory exit time prior to scheduling the first tanker entry for the opposite direction refueling.

5. Minimum Entry Intervals:

(a) Point−Parallel Rendezvous − A 40–minute entry interval shall be planned between tankers at the same altitude except when operating in an ALTRV. Tanker aircraft shall arrive at the ARCP no earlier than ARCP minus 20 minutes and depart no later than ARCP plus 10 minutes unless specifically cleared by the appropriate ATC facility for an extended delay. If clearance for a longer delay cannot be granted or notification of receiver abort is received, the tanker shall proceed down track until an amended ATC clearance can be granted. Receiver aircraft shall arrive at the ARCP no earlier than ARCP minus 5 minutes and depart no later than ARCP plus 10 minutes.

(b) En Route Cell Rendezvous − A minimum 20–minute entry interval shall be scheduled between air refueling cells at the same altitude and the same geographic point. Both tanker(s) and receiver(s) shall arrive at the rendezvous point within +/− 5 minutes of the rendezvous control time. (See FIG 10−5−1, FIG 10–5–2, and FIG 10–5–3.)

(c) Mixed Rendezvous − Air refueling tracks scheduled for an en route rendezvous followed by a
point–parallel or vice versa, the minimum entry interval shall be 40 minutes.

b. Scheduling criteria to ensure adequate airspace for aircraft refueling within an anchor area shall be as follows:

1. Single Anchors – Simultaneous refueling is authorized for single anchors when standard separation is applied.

2. Multiple Anchors – Simultaneous refuelings may be accomplished in anchors which have 80 NM separation between anchor points.

3. Multiple air refueling in one anchor/anchor track – 2,000 feet vertical separation between altitude blocks shall be planned and used.

4. Minimum Entry Intervals – A 10–minute interval shall be maintained between the anchor area exit time of a tanker departing from an anchor and the anchor area entry time of a tanker arriving in the anchor at the same altitude.

**NOTE**– The entry intervals outline in subparagraphs a and b are permissive and are not intended to preclude greater entry intervals which may be desirable or necessary to satisfy specific track/anchor restrictions or mission requirements.

c. Tankers may be scheduled to enter the track or anchor by direct routing to the ARCP or anchor point.

d. Tanker/receiver shall be scheduled to depart the track or anchor at specified navigation checkpoints or exits. In event of no clearance, the tanker(s) and receiver(s) will continue on the tanker’s filed flight plan until a clearance to separate the flight can be obtained, or request an extension of the aerial refueling track, as appropriate.

e. MARSA may be applicable between a refueling operation and other aircraft specifically identified in the refueling schedule or approved by the scheduling unit to transit the published track/anchor.

10–5–5. SCHEDULING RESPONSIBILITIES

a. Each aerial refueling track/anchor shall have a designated military unit responsible for scheduling all military flights intending to use the track/anchor. If the designated military unit does not have a continuous point of contact; i.e., a unit subject to deployment or a unit not available during normal work days (ANG unit working Wednesday–Sunday), then an alternate scheduling agency shall be designated.

b. Each scheduling unit (primary or alternate) shall:

1. Submit to the assigned ATC facility at least 24 hours in advance a daily refueling schedule for each track or anchor including the:
   (a) Requested refueling levels.
   (b) Requested time of use.
   (c) Call signs of tanker(s) and receiver(s).

**NOTE**– The assigned ATC facility may advise the scheduling unit to discontinue submitting daily refueling schedules if concerned ATC facilities do not need advance information.

2. Advise the assigned ATC facility as soon as practicable of any cancellations to the schedule.

3. Obtain approval for the following from the assigned ATC facility:
   (a) The schedule as submitted.
   (b) Use of two altitude blocks simultaneously; e.g., 150B160 and 250B260.
   (c) En–route Cell Rendezvous operations.

4. Coordinate with other scheduling units to resolve all conflicts in altitudes and/or times for tracks/anchors which cross, underlie, or are parallel prior to submitting to the assigned ATC facility.

5. Notify other scheduling units when assigned tracks/anchors are to be used or crossed during No–Notice exercises.

6. Clearly indicate the following information on the unit flying schedules:
   (a) Track or anchor scheduled entry time.
   (b) ARCT/anchor point control time.
   (c) ARCP/anchor point departure time.
   (d) Track or anchor scheduled/mandatory exit time.

c. Receiver Unit Responsibility – Each receiver unit shall:

1. Obtain refueling times for each desired track/anchor from the appropriate scheduling unit.

2. Provide call signs for the participating aircraft to the scheduling unit not later than 1600 hours.
(scheduling unit time) on Tuesday of the week preceding the scheduled activity.

3. Promptly notify the scheduling unit of any canceled or delayed refueling.

d. ATC Facility Responsibility – The assigned ATC facility shall forward the daily refueling schedule and any revisions to other concerned ATC facilities. In the event disapproval is necessary, suitable alternate times, altitudes, tracks, or anchors shall be coordinated with the scheduling unit.

10−5−6. FLIGHT PLAN REQUIREMENTS

Instructions/information concerning the filing of flight plan data for aerial refueling operations is contained in the Flight Information Publication (FLIP) document. The following data shall normally be included by refueling aircraft:

a. Refueling levels requested for the refueling operations. All aircraft require 1,000 feet separation between the lowest tanker altitude and the applicable receiver altitude from the track ARIP to ARCP or from the ARIP to anchor point. If this altitude separation cannot be provided, the participating aircraft are not authorized to proceed with the rendezvous.

b. ARCP/anchor point.

NOTE– When operating in an air refueling anchor area, tankers are authorized to file directly to the anchor point without crossing an anchor area entry point.

c. ARIP.

NOTE– Tankers conducting an en route rendezvous will also normally file to the ARIP.

d. Duration of delay at ARCP/anchor point.

e. Track or anchor number.

f. Track/anchor exit point.

10−5−7. TANKER AIRCRAFT/FORMATION COMMANDER RESPONSIBILITIES

Tanker aircraft or formation commander shall be responsible for:

a. Remaining within the assigned aerial refueling track.

NOTE– Air refueling will not take place until MARSA is declared.

b. Notifying the appropriate ATC facility of all altitudes vacated and not anticipated for further use by refueling aircraft. Such altitudes shall not be reoccupied without further ATC clearance.

c. Receiver navigation, regardless of the number of receivers, after rendezvous completion through completion of refueling operations (air refueling and MARSA have been terminated) except when under control responsibility of a military radar facility while in an anchor/anchor track area.

d. Maintaining communications with the appropriate ATC facility.

1. All communications during refueling operations, including those concerning the receivers, shall be between the ATC facility or military radar unit and tanker.

2. To the extent practical, receivers shall establish communications with the tanker prior to or when departing the ARIP on the specified air refueling frequency.

3. The tanker shall advise receivers if the clearance to conduct air refueling has or has not been received.

4. Tanker(s) will assume position reporting responsibility for the receivers upon rendezvous completion.

e. Requesting further en route clearance/altitude assignment:

1. From the ATC facility for both the receiver and tanker at least 5 minutes prior to refueling completion, in accordance with paragraph 10−5−9, ATC Clearance, except when both aircraft are operating on an approved altitude reservation (ALTRV).

2. Through the radar controller when operating in refueling anchors with a military radar unit (MRU). At least 5 minutes prior to completing refueling operations, the military radar facility shall forward requests to the assigned ATC facility and subsequently relay ATC clearances for the tanker and receiver aircraft from the ATC facility.

f. Vertically positioning aircraft prior to reaching the planned exit point, to facilitate the safe and efficient transfer of responsibility from the military, under the provisions of MARSA, to the ATC facility.
upon completion of refueling operations. The vertical separation of receivers and tanker aircraft shall be accomplished within the assigned altitudes.

g. Providing each receiver, upon request, with the aircraft’s position at the completion of refueling operations. Additional information concerning amendments of changes to the receiver’s ATC clearance shall also be provided as appropriate.

h. Coordinate new aerial refueling track times with the scheduler if unable to meet the scheduled ARCT(s) and minimum entry intervals.

10−5−8. RECEIVER AIRCRAFT RESPONSIBILITIES

Receiver aircraft shall be responsible for:

a. Initiating the request for altitude change in sufficient time to reach the required air refueling block altitude prior to the ARIP.

b. Squawking normal when separation from tanker is greater than three (3) miles.

c. Maintaining two−way radio contact with ATC until released by ATC to the tanker.

10−5−9. ATC CLEARANCE

The tanker commander shall receive specific ATC clearance from the appropriate ATC facility for the following:

a. Entry to/exit from assigned aerial refueling altitude block.

b. Altitudes requested for tanker and receiver aircraft upon completion of air refueling.

c. Routing for each aircraft or formation flight when:

1. Exiting the refueling track prior to or beyond the exit point, or
2. Different from the flight plan routing.

d. Extending the refueling operation beyond the track/anchor exit point due to adverse winds, mission requirements, etc.

e. Use of altitudes in excess of those for which specific clearance has been granted (i.e., tobogganing).

NOTE−During refueling, altitude and temperature conditions may exist which decrease the receiver’s available thrust and maneuverability. In this event, the receiver may request a “toboggan” in order to receive a full fuel onload. The toboggan maneuver is accomplished by the tanker descending wings level at refueling airspeed and a constant rate of 200−300 FPM with the receiver maintaining the refueling contact.

10−5−10. RADAR VECTOR ASSISTANCE

Radar vector assistance for rendezvous may be given by the ATC facility when requested by participating aircraft when appropriate altitude separation is provided. Assistance shall be terminated when the receiver has visual contact with the tanker.

10−5−11. ATC FACILITY RESPONSIBILITIES

The appropriate ATC facility shall ensure that:

a. Standard IFR separation is maintained until MARSA is declared by the tanker.

b. After MARSA is declared, receiver aircraft are released to tanker C/R frequency departing the ARIP, traffic conditions permitting, or unless otherwise coordinated.

NOTE−It is essential that receivers be released to the tanker no later than the ARIP. If ATC cannot release the receivers, additional instructions must be provided immediately. Any delay in releasing the receivers significantly complicates the air refueling.

c. Upon request, receiver or tanker aircraft are provided assistance, to the extent possible, to confirm the other’s position.

d. In the application of vertical separation based on altitude vacating reports, the altitude vacated shall not be used until the aircraft has reported reaching the next IFR altitude.

e. If necessary to assign SODAR aircraft altitude blocks which are outside the vertical limits of the tracks, a vertical separation minimum of 2,000 feet will be maintained between assigned altitude blocks.

f. An ATC clearance is issued and acknowledged through the tanker aircrew for each aircraft or formation flight:

1. Refueling anchor.
2. Refueling track when exiting prior to/beyond the exit point, or if routing is different from the flight plan route.
g. An en route altitude assignment is issued for each aircraft or formation flight exiting a refueling track at the flight plan exit point.

h. Receiver aircraft that have been cleared to conduct air refueling and have departed the ARIP are issued instructions pertaining to the operation of the transponder in accordance with mileage parameters listed in the pertinent paragraphs on Military Aerial Refueling in FAA Order 7110.65, Air Traffic Control.

i. The ARTCC/CERAP shall notify the appropriate tie-in AFSS/FSS at least 2 hours in advance when an established aerial refueling track/anchor will be activated if all or part of the activity will take place outside of applicable SUA or Class A airspace.

j. The tie-in AFSS/FSS shall transmit a NOTAM/D of this planned refueling activity. The AFSS/FSS(s) will provide the notice information to pilots during inflight/preflight briefings.

10–5–12. COMMUNICATIONS FAILURE

Aircraft experiencing two-way communications failure during the conduct of aerial refueling shall continue flight in accordance with the following procedures:

a. Squawk code 7600 for at least two (2) minutes prior to exiting the track or anchor. After exit, continue squawk in accordance with “Procedures for Two-Way Radio Failure IFR–VFR” set forth in the DOD Flight Information Handbook.

b. Tanker aircraft which have not received altitude instructions beyond the exit point shall exit the track or anchor at the highest altitude specified in the clearance for the refueling portion of the flight and proceed in accordance with “Procedures for Two-Way Radio Failure IFR–VFR” set forth in the DOD Flight Information Handbook.

c. Receiver aircraft which have not received altitude instructions beyond the exit point shall exit the track or anchor at the lowest altitude specified in the clearance for the refueling portion of the flight and proceed in accordance with “Procedures for Two-Way Radio Failure IFR–VFR” as set forth in the DOD Flight Information Handbook.
FIG 10-5-1

En Route Cell Rendezvous for Air Refueling

Rendezvous Point A

PLAN VIEW

ARIP

50 mi or more

50 mi or more

Rendezvous Point B

PROFILE

Receiver

TANKER

1000' at Entry

500'

50 NM

100 NM

80 NM

1000'

Upon leaving the rendezvous point the aircraft reduce separation and assume enroute cell formation (receiver 500 feet above and 1 nautical mile behind tanker—MARSA). At the ARIP both aircraft enter the track and adjust to air refueling formation.

Note: Enroute Cell Rendezvous permits tanker or receiver to arrive at a predetermined holding fix and delay at this point awaiting the arrival of the other. The holding pattern will consist of left turns, 15 NM legs with a maximum authorized holding speed of 275 KIAS. The track from the rendezvous point to the ARIP may come from any direction and may not necessarily be an extension of the ARIP to ARCP track line. The tanker or receiver may be first to arrive at the rendezvous point, but the receiver always shall hold 1000 feet above the tanker. When both aircraft have arrived at the holding fix and established their spacing (1000 feet vertically) and position (receiver above and behind tanker) they then proceed to the ARIP.
FIG 10–5–2
En Route Cell Rendezvous for Air Refueling
Turbojet Tanker/Tactical Fighter

Tanker proceeds toward receiver at 70 mile range call.

Tanker turns to refueling track at 21 NM range call.

Possible toboggan 200–300 FPM Descent

30° Bank

ARCP/ANCHOR POINT

Receivers climb when visual on tanker.

1000'

ARIP
FIG 10-5-3
En Route Cell Rendezvous for Air Refueling
Turbo Prop Tanker/Tactical Fighter

Tanker proceeds toward receiver at 70 mile range call.

Tanker turns to refueling track at 35 NM range call.

ARCP/ANCHOR POINT

Receivers descend when visual on tanker.

ARIP

100'
Section 6. Special Refueling Requirements

10–6–1. PROVISIONS FOR SPECIAL TRACKS/ANCHORS

The U.S. Military/FAA agreement for the conduct of aerial refueling operations embraces the concept of maximum use of published tracks/anchors. However, in recognition of the requirement for flexibility, the following special provisions are incorporated.

a. Where published tracks/anchors are inadequate for special mission/sortie, a special track/anchor may be established. Special tracks/anchors shall not be published in the DOD FLIP planning document, but may be described in letters of agreement.

b. Special tracks/anchors may be established for one time use by direct coordination with the appropriate ATC facility.

c. Special tracks/anchors for other than one time use require approval of the major military command concerned and coordination with the military regional representative.

10–6–2. RESPONSIBILITY OF REQUESTING UNIT

Except when special tracks/anchors are requested in accordance with paragraph 10–6–6, Special Exercises, the requesting unit shall be responsible for obtaining approval to transit or use:

a. SUA/ATCAA from the using agency. Assurance must be obtained from the using agency that no other activity is scheduled in the area at same time/altitudes.

b. A published refueling track or anchor from the assigned scheduling unit.

c. An MTR entry or exit, including associated tracks, from the designated scheduling unit.

NOTE—Notification of such approval is not required by FAA.

10–6–3. OPERATIONS WITHIN AN ALTRV

Missions operating in an approved altitude reservation (ALTRV) may conduct refueling operations within the ALTRV airspace. (See Chapter 3.)

10–6–4. OPERATIONS OUTSIDE AN ALTRV

Missions not operating in an ALTRV may conduct refueling operations along special tracks/anchors within airspace approved for use as follows:

a. Units shall submit an approval request directly to the ATC facility concerned at least 12 hours in advance, or as soon as possible, to permit coordination and receipt of approval.

b. The approval request shall specify the following:

1. The portion of the route where refueling operations will be conducted.

2. ARCP patterns or rendezvous points if an En Route Cell Rendezvous is planned.

3. Altitudes requested.

4. Lateral dimensions of the airspace required.

5. Duration of operation.

6. Control times.

7. Any other information deemed necessary or requested.

c. The requirements for establishing special tracks/anchors are not applicable for refuelings conducted between aircraft operating as an en route formation.

10–6–5. IN–FLIGHT REQUESTS

The tanker commander is responsible for coordinating all in–flight requests with other aircraft in the refueling operation prior to the submission of such request to ATC. The provisions of MARSA remain in effect during the execution of approved in–flight vectors unless separation responsibility is specifically assumed by the approving ATC facility. In–flight requests for radar vectors or alternate routes or altitudes to avoid weather or for emergency refueling may be approved only at the request of the tanker commander as follows:

a. Radar vectors or changes of altitude may be approved at any time.

b. Nonradar routes may be approved only after the refueling aircraft have passed the ARCP.
10–6–6. SPECIAL EXERCISES
Special tracks/anchors may be established for use during planned exercises to meet a specific mission requirement. This will be accomplished through a letter of agreement with the appropriate ATC facility and requires the approval of the major military command(s) concerned and coordination with the military regional representative.

10–6–7. ISSUE NOTAM
NOTAM/Ds shall be issued for special tracks/anchors outside Class A airspace so as to define the refueling area as specifically as mission security will allow.

10–6–8. VFR HELICOPTER REFUELING OPERATIONS
Headquarters United States Air Force/Navy/Marine Corp/Army have stated a requirement to conduct VFR helicopter in-flight refueling operations at altitudes from 4,000 feet AGL down to 1,000 feet AGL at speeds below 150 knots.

10–6–9. VFR REFUELING TRACK ESTABLISHMENT
a. Military units may request establishment of a VFR helicopter refueling track when a determination has been made:

   1. By appropriate military headquarters (major command/type command) that other alternatives have been explored; e.g., use of existing MOAs, restricted areas, or other published refueling tracks.

   2. That coordination with the scheduling agencies of other military airspace/routes has been accomplished to develop mutually acceptable conflict resolution criteria/procedures.

   3. That the number of tracks shall be kept to the absolute minimum required to meet mission requirements.

b. The originator of the track shall obtain a route designator for use during coordination from NIMA/MCBB, Mail Stop L−27, 3200 South 2nd Street, St. Louis AFS, Missouri 63118, by letter, message (NIMA ST. LOUIS AFS MO/MCBB) or telephone (DSN 693−4636 or commercial 314−263−4636) or FAX (DSN 693−4993 or commercial 314−263−4997). The number in the designator provided by NIMA will be prefixed by an “X”; e.g., AR X800V, to indicate the number to be used for coordination purposes only. The prefix “X” will be deleted when published in FLIP planning. The suffix “V” has been added to indicate a visual or VFR helicopter refueling track.

c. VFR published refueling tracks shall:

   1. Be operationally flight evaluated for the entire track to ensure compatibility with VFR obstacle clearance.

   2. Be depicted on DOD FLIP AP/1B charts.

NOTE−
Following MAJCOM/TYCOM and FAA approval (reference paragraph 10–4–7, NIMA Responsibilities), the regional military representative will forward the route description to NIMA for publication in FLIP.

   3. Be depicted on appropriate aeronautical charts.

NOTE−
The regional Air Traffic division in whose area the route originates is responsible for submitting the route description for publication. A charting request shall be submitted to the NFDC.

10–6–10. REFUELING TRACK DEFINITION
a. Track width − In all cases, the refueling track shall be of sufficient size to contain all planned activities. Normally, VFR refueling tracks will be 4NM either side of centerline unless otherwise specified.

b. Track length − Normally 50–100 NM.

c. Track alignment − Track alignment criteria shall be as follows:

   1. Track widths shall be designed to permit refueling aircraft to avoid Class B, C, D, airspace and Class E surface based areas below 3,000 feet AGL, scheduled air carrier airports, and high−density general aviation airports.

   2. All VFR refueling tracks to be flown at/below 1,500 feet AGL should be designed to permit aircraft flying the track to avoid charted, uncontrolled airports by 3 NM or 1,500 feet. Where it is impracticable to comply with this criteria, procedures shall be established to minimize conflict with airport traffic by maintaining liaison with airport owners/operators.

   3. Avoid known VFR flyways.

   4. Tracks should be aligned to minimize disturbance to people or property on the ground.
10−6−11. OPERATING PROCEDURES

a. The scheduling unit shall notify the tie−in AFSS/FSS in advance of all planned refueling track usage on a daily basis. This shall include route designator, time period, and altitude if other than published.

b. Appropriate ATC facilities (en route and terminals), wherein radio and radar coverage exist along the VFR track, shall provide radar advisory service (reference Order 7110.65, Air Traffic Control) to tanker aircraft.

c. The tie−in AFSS/FSS shall transmit a NOTAM/D via data communications systems to all AFSS/FSSs in accordance with FAA Order 7110.10, Flight Services, and FAA Order 7930.2, Notices to Airmen.

d. AFSS/FSSs shall include pertinent VFR refueling activity in pilot briefings in accordance with FAA Order 7110.10, Flight Services.

e. Tanker aircraft pilots scheduled to operate within VFR refueling tracks shall advise the AFSS/FSS nearest the entry point 5 minutes prior to entering and the AFSS/FSS nearest the exit point, upon exiting.

10−6−12. FLIGHT PLAN REQUIREMENTS

a. Pilots departing on IFR clearance en route to a helicopter refueling track are required to file to the fix/radial/distance of their entry/alternate entry point of the track.

b. Pilots transitioning to IFR upon exiting the helicopter refueling track are required to have on file a previously filed IFR flight plan from the appropriate fix/radial/distance of their exit point.

NOTE−Except in Alaska, composite IFR−VFR−IFR flight plans may be filed with appropriate AFSS/FSS and BASEOPS. Stereo flight plans could be an advantage in flight planning.

10−6−13. WEATHER MINIMUMS

Operations on VFR refueling tracks shall be conducted only when the weather is at or above VFR minimums.

10−6−14. ADHERENCE TO REFUELING TRACK

Pilots operating on VFR refueling tracks shall be responsible for remaining within the lateral and vertical confines of the VFR refueling tracks.

10−6−15. FAA COORDINATION

a. Proposals for establishing VFR refueling tracks shall be submitted in the format and with the data depicted in FIG 10−4−1 to the appropriate ARTCC/CERAP with a copy to the appropriate regional military representative. In those airspace areas not under the direct jurisdiction of FAA, the theater command headquarters shall develop procedures for coordination and approval of proposed tracks and anchors.

b. The ARTCC/CERAP which received the request for establishment of an aerial refueling track shall assume the responsibility for FAA internal coordination as necessary. Following ARTCC/CERAP comment/concurrence, the originating unit will forward the final proposal to the military major/type command for approval. The military major/type command will forward the proposal to the regional military representative for final review, coordination, and publication.

c. FAA regional Air Traffic divisions shall review each proposed VFR helicopter refueling route and coordinate it with other interested FAA divisions. The regional review will include a determination that the proposed VFR refueling tracks are consistent with the criteria contained in this part. Terminal Air Traffic facilities will be included in the development of tracks transiting their airspace.

d. Unusual requirements, not in accordance with this criteria, for limited/onetime−use VFR tracks, will be coordinated directly with appropriate military headquarters.

10−6−16. PUBLICATION/SCHEDULING

The military shall designate a scheduling activity for each VFR refueling track. (See paragraph 9−2−1, Requirement.)
Chapter 11. Military Training Routes (MTR)

Section 1. General

11–1–1. PURPOSE
This chapter prescribes policy, criteria, administrative, and operating procedures pertaining to routes for military training/RDT&E conducted below 10,000 feet MSL, in excess of 250 KIAS. Although the MTR structure is intended for operations below 10,000 feet MSL, route segments may be defined at higher altitudes.

11–1–2. POLICY
The policy concerning military operations in excess of 250 KIAS below 10,000 feet MSL is specified in the Letter of Authorization granted to DOD. (See Appendix 18, Speed Authorization Granted to DOD.)

11–1–3. DEVIATIONS
a. The FAA regional Air Traffic division managers may authorize deviations from the provisions of this chapter when user requirements cannot be supported within established criteria. They may not waive the provisions contained in the Letter of Authorization granted to DOD.

b. Approved deviations from this chapter shall be fully coordinated and shall contain provisions to assure an appropriate level of safety. Copies of approved deviations shall be forwarded to FAA headquarters, ATP–200, by the originating FAA region.

11–1–4. PUBLICATION
MTRs shall be published as follows:

a. IFR En Route Low Altitude Chart – The civil version of this chart depicts all IRs and those VRs that accommodate operations above 1,500 feet (AGL).

b. IFR/VFR Wall Planning Chart:
   1. IFR – This chart depicts those activities outlined in subparagraph a.
   2. VFR – This chart depicts those activities outlined in subparagraph c.

c. VFR Sectional Aeronautical Chart – It is intended that this chart will depict all areas of military training activities; i.e., IRs and VRs regardless of altitude, military operation areas, restricted, prohibited, warning, and alert areas.

d. DOD FLIP AP/1B and AP/3 – These publications, furnished by the DOD, are primarily for military users and contain detailed information on both IRs and VRs. The FLIP contains a description of these routes.
Section 2. MTR Route Designation Criteria

11–2–1. LIMITATIONS

a. Routes shall be limited to the minimum number necessary to support operational requirements as determined by the appropriate military major/type command.

b. To the extent practicable, routes shall be designed to accommodate the maximum number of users and activities on the same route.

11–2–2. ROUTE IDENTIFICATION

a. Routes shall have a designator composed of the prefix “IR” or “VR” followed by a number from the table in subparagraph e, indicating the FAA region in which the route’s entry point is located. Alternate route segments established in accordance with paragraph 11–4–5, Alternate Entry, Exit, and End Points, or paragraph 11–7–5, Alternate Entry/Exit/End Points, shall be identified by using the basic/principal route designator followed by a letter suffix; e.g., IR101A, IR101B, VR102A, VR102B.

b. Route numbers shall not be duplicated, regardless of whether they are IR or VR numbers. Assignment of route numbers shall be by the regional military representatives.

c. MTRs that include one or more segments above 1,500 feet (AGL) shall be identified by three number characters; e.g., IR206, VR207.

d. MTRs with no segment above 1,500 feet (AGL) shall be identified by four number characters; e.g., IR1206, VR1207.

e. Route number assignments shall be made from the following allocation:

<table>
<thead>
<tr>
<th>Region</th>
<th>MTR Numbers, One or More Segments Above 1,500 Feet AGL</th>
<th>MTR Numbers, All Routes at or Below 1,500 Feet AGL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern</td>
<td>001 thru 099</td>
<td>1001 thru 1099</td>
</tr>
<tr>
<td>Southwest</td>
<td>100 thru 199</td>
<td>1100 thru 1199</td>
</tr>
<tr>
<td>Western–Pacific</td>
<td>200 thru 299</td>
<td>1200 thru 1299</td>
</tr>
<tr>
<td></td>
<td>980 thru 999</td>
<td>1980 thru 1999</td>
</tr>
<tr>
<td>Northwest Mountain</td>
<td>300 thru 499</td>
<td>1300 thru 1499</td>
</tr>
<tr>
<td>Central</td>
<td>500 thru 599</td>
<td>1500 thru 1599</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>600 thru 699</td>
<td>1600 thru 1699</td>
</tr>
<tr>
<td>Eastern</td>
<td>700 thru 799</td>
<td>1700 thru 1799</td>
</tr>
<tr>
<td>New England</td>
<td>800 thru 899</td>
<td>1800 thru 1899</td>
</tr>
<tr>
<td>Alaska</td>
<td>900 thru 979</td>
<td>1900 thru 1979</td>
</tr>
</tbody>
</table>

f. If a route is in development, the route’s originator shall contact the appropriate military representative located in the FAA region in which the route commences to obtain a route number.

g. MTRs are one−way routes. If the route is to be flown in the opposite direction, a separate route designator shall be assigned.
Section 3. Publicity

11–3–1. INFORMATION TO THE PUBLIC

After routes are established, the DOD and the FAA shall acquaint the public with the description, location, and periods of use. As a minimum, the following is required:

a. The DOD shall publish all routes in the FLIP AP/1B and AP/3. FAA requests for copies shall be made in accordance with FAA Order 1720.23, Distribution of Aeronautical Charts and Related Flight Information Publications.

b. The FAA shall:

1. Post a route depiction chart in AFSS/FSSs’ flight briefing areas and FSDOs.
2. Publicize the MTR program through letters to airmen and pilot meetings.
3. Develop and distribute appropriate aeronautical charts depicting MTRs.
4. Include a description of the MTR program in the AIM and the AIP along with reference to detailed aeronautical publications.
Section 4. IR Route Definition

11−4−1. ROUTE WIDTH

Widths of route segments shall be defined by the military. In all cases, the route width shall be of sufficient size to contain all planned activities. For cartographical purposes, the standard route width shall be 5 NM.

11−4−2. ROUTE ALIGNMENT

Route alignment criteria shall be as follows:

a. All IRs to be flown at/below 1,500 feet AGL should be designed to permit aircraft flying the route to avoid charted, uncontrolled airports by 3 NM or 1,500 feet. Where it is impractical to comply with this criteria, procedures shall be established by the scheduling/originating activity to minimize conflict with airport traffic; i.e., identify volume and type traffic, highlight need for increased vigilance commensurate with situation, maintain liaison with airport owner/operator, include appropriate cautionary note in route description: “Avoid flight within 1,500 feet or 3 NM of airport when practicable,” etc.

b. Subsequent charting of airports within 3 NM of an MTR may require route realignment to conform to the criteria established in subparagraph a.

c. Routes should be aligned to avoid Class D and Class B airspace.

d. During development of routes, consideration should be given to potential conflict with published and unpublished instrument procedures/routes.

e. Routes should be aligned so that disturbance to persons or property on the ground is minimized.

11−4−3. ALTITUDES

a. Altitudes shall be established for each route segment. Routes shall contain the minimum number of altitudes commensurate with mission requirements and may be specified singly, in blocks, or a range from which ATC assignment may be made. Minimum altitudes for each route segment shall be established by the military. Altitude information shall be reflected on FAA Form 7110−4 as follows:

1. IRs should depict the highest altitude in MSL terms. The lowest altitude may be depicted in either MSL or AGL terms.

2. An altitude block shall be depicted as the lowest altitude followed by a “B” followed by the highest altitude.

EXAMPLE−
5 AGL B 20 MSL
40 MSL B 60 MSL
SFC B 50 MSL

3. A range of altitudes from which ATC may assign a single altitude shall be depicted as the lowest altitude, in MSL terms, followed by a “−” followed by the highest altitude in MSL terms (when acceptable to the mission).

EXAMPLE−
20 MSL−50 MSL

b. Unless the route segment is clearly annotated, “for use in VMC conditions only,” each route segment shall contain an altitude that is suitable for flight in IMC and can be used in the event of an aircraft systems failure. This altitude shall be referred to as the IFR altitude and may be contrary to 14 CFR Section 91.177 (Minimum Altitude for IFR Operations) when specifically authorized by appropriate military authority. The IFR altitude shall always be depicted in MSL terms. In no case will flight operations be conducted at altitudes less than those specified in 14 CFR Section 91.119 (Minimum Safe Altitude, General). In the absence of an established IFR altitude, the IFR altitude is the highest altitude designated for the route segment as depicted in the route description.

c. All altitudes shall be established by the military. The military may use other than FAA standards for establishing IFR altitudes for route segments.

d. When practical, the designated exit fix altitude shall be within an area of radio coverage. When it is determined that ATC impact or other constraints preclude the exit fix altitude being established within radio coverage, an altitude below radio coverage may be utilized provided procedures for routinely exiting the route; i.e., pre-coordinated clearances, stereo routes, and actions to be taken by the pilot in the event two-way communications are lost, are covered in a letter of agreement.
11–4–4. RE–ENTRY SEGMENTS
Consistent with ATC capabilities, routes may have re–entry segments. To the extent practicable, re–
entry segments should avoid ARTCC/CERAP boundaries.

11–4–5. ALTERNATE ENTRY, EXIT, AND END
POINTS
a. Any point on the route may be identified as an alternate entry/exit/end point. Entry points must
precede exit points on the routes/alternate routes with which they are associated.

b. Whenever a route is modified by designating alternate entry/exit/end points, the route segments
associated with the alternate points shall be consid-
ered modifications to the basic/principal route and
may be described and designated as alternate routes.

c. Any alternate route segments shall meet all of
the requirements pertinent to the establishment of
new routes.

11–4–6. ROUTE REPORTING POINTS
a. Unless otherwise specified in the letter of
agreement, the NFDD, and the DOD FLIP AP/1B
route description, exit points shall be mandatory
reporting points.

b. Other mandatory reporting points may be
established for ATC purposes. These shall be kept to
those absolutely essential in providing IFR separa-
tion between the route user and other IFR traffic.
These points shall be specified in the letter of
agreement, as appropriate, and the route description.

11–4–7. SPECIAL OPERATING PROCEDURES
Special operating procedures may be imposed, but
shall be held to the minimum required. These
procedures may be applied on a route segment basis
and need not apply to the entire route. Such restric-
tions shall be a part of the narrative route description
as published in the NFDD and DOD FLIP AP/1B (or
AP/3). If ATC procedures are involved, they shall be
included in the letter of agreement governing the use
of the route.

11–4–8. LOW ALTITUDE AIR–TO–AIR
TRAINING (LOWAT)
a. LOWAT shall be accomplished only on IRs
specifically designated for this purpose.

b. The provisions for an equivalent level of safety
for LOWAT training shall be contained in a letter of
agreement between the ARTCC/CERAP and the
military unit.

c. LOWAT maneuvers are not “classical inter-
cepts,” but allow for observation and analysis of an
aerial attack, initiation of the appropriate defensive
response, and continuation of the primary mission
with minimal interruption. LOWAT training maneu-
vers conducted on IEs shall be limited to:

1. No more than a 90–degree turn will be
performed on the IR.

2. LOWAT maneuvers will be terminated as
soon as visual and/or radio contact is made by the
defending aircraft.

3. Weather minimums on IEs at maneuvering
altitudes shall be 1,500 feet from clouds and 3 miles
flight visibility.

d. LOWAT training shall be limited to those
aircraft with sophisticated operating airborne radar
systems.

e. IEs designated for LOWAT will be coordinated
on an individual basis, approved at FAA Washington
Headquarters, published in DOD FLIP, and clearly
identified as a designated LOWAT route.
Section 5. IR Coordination

11−5−1. ESTABLISHING OR REVISING ROUTES

a. Military units having a requirement to establish or revise a route must have that requirement validated by the appropriate military major/type command. As a part of the validation process, a determination must be made that other alternatives have been explored; e.g., use of existing MOAs, restricted areas, or other routes. This determination shall be documented in writing and become a part of the route proposal.

b. All route requests or route amendments developed by the originating unit shall be submitted on FAA Form 7110−4 (see FIG 11−5−2 and FIG 11−5−3). A letter of transmittal shall contain sufficient information to allow each reviewing authority to adequately understand and evaluate the proposal/revision. For route revisions, complete FAA Form 7110−4 with only the changed/new data, route designator, and originating unit. Check the “modified” block.

c. All route proposals shall be illustrated on a current sectional chart (not required for revisions which do not effect route alignment) with routes depicted as follows:

1. Routes shall be depicted by lines defining the route widths.

2. Altitudes shall be depicted along each route segment and expressed in hundreds of feet AGL or MSL as appropriate. Altitude blocks or ranges shall be indicated by separating the altitudes with a “B” for blocks or a dash “−” for ranges. (Refer to paragraph 11−4−3, Altitudes.)

3. Each point/fix, including turn points, shall be identified by sequential alphabetical lettering in accordance with the direction of flight.

d. The originating unit shall coordinate the route proposal with other affected military organizations.

e. The ARTCC/CERAP in whose area the route originates shall be the focal point and coordinate with other ATC facilities.

f. A listing of all personnel and organizations coordinated with shall become a part of the route proposal.

g. Once the ARTCC/CERAP has concurred with an IR proposal, subsequent changes must be re−coordinated with the ARTCC/CERAP and documented regardless of the level at which the change was made.

h. Prior to submission for publication, the military shall conduct an operational flight evaluation of the entire route to ensure compatibility with obstacle clearance, navigation, communication, and special restriction requirements. Coordination with the appropriate ATC facilities is required.

i. Once ARTCC/CERAP proponent agreement has been reached, proposals shall be forwarded to the appropriate military major/type command headquarters for review and environmental certification.

j. If agreement between the proponent and the ATC facilities involved cannot be achieved after consideration of all feasible alternatives and compromises, the proponent shall request assistance from the appropriate military headquarters and the FAA regional military representative. A resolution shall then be sought at a meeting attended by the proponent, the ATC facilities involved, military major/type command headquarters representatives, the FAA regional headquarters, and the military representatives. Should a resolution not be achieved, the military headquarters representatives may, at that meeting, authorize the proponent to proceed with processing of a VR proposal in lieu of the disagreed IR.

k. Regional Review action: IR proposals shall be forwarded to the military representative at the FAA region in which the routes originate. The military representative shall review the proposals for compliance with this criteria, coordinate with other military service representatives, and then submit them to the FAA regional Air Traffic division.

l. The FAA regional air traffic division shall:

1. Coordinate all proposals with other interested FAA divisions.

2. Determine when proposals will increase the burden on civil users of the navigable airspace, and coordinate those proposals with the appropriate civil aviation user groups.
3. Approve or disapprove the proposal and notify the regional military representative, in writing, within 45 days of receipt of the original proposal.

m. The FAA regional air traffic division is the final approval authority for all IR proposals/ revisions.

n. The block diagram below represents the normal coordination flow of a proposed IR.

![Diagram](image)

**Normal Coordination Flow of a Proposed IR**

11−5−2. PUBLICATION

a. The FAA regional air traffic division in whose area the route originates shall submit the approved FAA Form 7110−4 containing the route descriptive data to the National Flight Data Center (NFDC) at least 9 weeks prior to the requested/required airspace effective date. Send a copy to the appropriate military regional representative.

b. The NFDC shall issue the official, complete route description via the National Flight Data Digest (NFDD). It shall be published in the same format as FAA Form 7110−4.

c. ARTCC/CERAPs shall review IR data published in the NFDD for accuracy and inform the appropriate regional Air Traffic division whenever a disparity exists between that which was agreed to and that which was published.

d. Military originating activities and ARTCC/CERAPs shall ensure that IR data published in the DOD FLIP AP/1B and AP/3 booklets correlate with provisions contained in the letters of agreement governing the use of the route.
FIG 11–5–2
Instructions for Completing FAA Form 7110–4, Military Training Route Data

Provide a complete description of the route, including all the various tracks, as follows:

1. Basic Route. The route from the en route altitude to the MTR and return to altitude.
   a. Enter altitude(s) for each route segment, letter of all action points, NA V AID identification and type, and latitude/longitude.
   b. Enter applicable special communications and/or reporting procedures in the altitude data column below the route segment where it applies.

2. Alternate Entry Track. An alternate track from en route altitude to a designated entry point to the MTR.
   a. Enter the words, “Alternate entry track to PT_” in altitude data column.
   b. Enter, on the next line, altitude(s), points, NA V AID, and latitude/longitude data.
   c. Enter applicable special communications and reporting procedures in the altitude data column.

3. Alternate Exit Track. An alternate track from a designated exit point to en route altitude.
   a. Enter the words “Alternate exit track to PT_” in altitude data column.
   b. Enter, on the next line, altitude(s), points, NA V AID, and latitude/longitude data.
   c. Enter applicable special communications and reporting procedures in the altitude data column.

4. Reentry track. The track to be followed from a designated exit point to reenter the MTR at a designated entry point.
   a. Enter the words “Reentry track from PT_” in altitude data column.
   b. Enter, on the next line, altitudes, points, NA V AID, and latitude/longitude data.
   c. Enter applicable communications and reporting procedures in the altitude data column.

5. Other/Routes. Any other track/route established as part of the MTR.
   a. Enter the identification of the track/route in the altitude data column; e.g., transition route, race track north, race track south, etc.

Altitude Data Column:

1. Express all altitudes in hundreds of feet and identify as MSL or AGL; e.g., 50MSL, 10AGL.

2. Enter the altitude(s) for each route segment to be flown to the point in the adjacent column as follows:
   a. A single altitude which must be used for the entry route segment; e.g., 50MSL.
   b. A block of altitude within which all operations will be conducted. This consists of two altitudes separated by the letter “B”; e.g., 30AGLB80MSL.
   c. A range of altitudes from which ATC will assign the altitude to be flown. This consists of two altitudes separated by a dash; e.g., 50MSL–80MSL.
   d. An IFR altitude must be shown for each route segment. If the highest altitude established for the route segment is also the IFR altitude, no other entry is required. If the highest altitude is not the IFR altitude, enter a separate IFR altitude immediately after the route segment altitude(s) and enclose within parenthesis; e.g., 10MSL–20MSL (50MSL).

Point (PT) Column. All action points published in the DOD FLIP AP/1B must be assigned a letter designator.

1. Identify the first 26 points by the letters A through Z; the second 26 points by the letters A through Z preceded by the letter A; e.g., AA, AB, AC; the third 26 points by the letters A through Z preceded by the letter B; e.g., BA, BB, BC.

2. Add a numerical suffix to the letter designator incrementally by one each time the point is reused; e.g., first time, P; second time, P–1; third time, P–2.

Facility/Radial/Distance (FAC/RAD/DIS) Columns:

1. Enter in the facility column the three letter NA V AID identifier, followed by an asterisk and the DME of the following letter codes to identify the type of NA V AID. D – VOR/DME; T – TACAN; C – VORTAC; Via – VOR; R – NDB.

2. No entry is required in the radial/distance column. The FAA (NFDC) will compute the radial/distance information using the geographical coordinate values in the latitude/longitude column, and publish in the National Flight Data Digest (NFDD). DMAAC/NIMA will publish the NFDD data in the DOD FLIP AP/1B.

Latitude/Longitude Columns:

1. Enter the latitude and longitude of navigation point in decimal format to the nearest tenth of a minute; e.g., 47°27.5N, 99°02.5W.

2. If the point is a NA V AID, enter the three letter identifier instead of the geographical coordinate values. (FAA/NFDC will use the geographical coordinate values for the NA V AID stored in its data base and publish in the NFDD. DMAAC/NIMA will use the FAA data for the FLIP AP/1B.)
## MILITARY TRAINING ROUTE DATA

**ROUTE**  
A Established  
\[ \text{20 October 88} \]  

**Effective Date (Compatible with DOD FLAP/IR Charting Date)**  
\[ \text{120 FIG (ANG)} \]  
Great Falls IAP, MT 59604  

**Originating Activity (Designation and Address)**  

**Scheduling Activity (Designation and Address)**  

<table>
<thead>
<tr>
<th>HOURS OF OPERATION (Enter hours and/or days, specify local or GMT).</th>
<th>0900 - 1600 Local Wednesday - Sunday 07 by NOTAM</th>
<th>0700 - 1600 Local Wednesday - Sunday 07 by NOTAM</th>
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</thead>
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**ROUTE DESIGNATION**  
IR-475  

**ROUTE DESCRIPTION**

<table>
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<tr>
<th>INFO USE</th>
<th>ALTIMETER DATA</th>
<th>POINT</th>
<th>FACILITY</th>
<th>RADIAL DISTANCE INFO USE</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
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</table>

**Primary Entry Fix**  
BIL 114 025

**Descend 100MSL - 130MSL direct to**  
A BIL*C  
45° 10.0'N 108° 20.0'W

**10AGL B 120MSL**  
B SHR*C  
44° 41.4'N 108° 21.1'W

**05AGL B 110MSL**  
C SHR*C  
44° 38.8'N 107° 54.0'W

**01AGL B 110MSL (120MSL)**  
D SHR*C  
44° 43.0'N 107° 33.0'W

**01AGL B 110MSL (120MSL)**  
E SHR*C  
44° 52.0'N 107° 41.6'W

**01AGL B 110MSL (120MSL)**  
F SHR*C  
45° 01.2'N 107° 59.4'W

**01AGL B 110MSL (120MSL)**  
G SHR*C  
45° 10.0'N 107° 35.9'W

**01AGL B 110MSL (120MSL)**  
H SHR*C  
45° 12.5'N 107° 05.5'W

**01AGL B 120MSL**  
I SHR*C  
44° 57.4'N 106° 33.2'W

**01AGL B 130MSL**  
J SHR*C  
44° 50.0'N 106° 09.5'W

**01AGL B 140MSL**  
K SHR*C  
44° 49.9'N 105° 52.0'W

**01AGL B 150MSL**  
L SHR*C  
45° 05.3'N 105° 50.0'W

**01AGL B 160MSL**  
M SHR*C  
45° 12.1'N 106° 07.0'W

**01AGL B 170MSL**  
N SHR*C  
45° 24.0'N 106° 32.5'W

**01AGL B 180MSL (Alternate Entry)**  
O SHR*C  
45° 32.7'N 106° 48.0'W

**01AGL B 190MSL**  
P MLS*C  
45° 44.1'N 106° 47.4'W

**01AGL B 200MSL**  
Q MLS*C  
45° 59.5'N 106° 45.5'W

**01AGL B 250MSL**  
R MLS*C  
46° 08.3'N 106° 33.9'W

**01AGL B 300MSL**  
S MLS*C  
46° 08.0'N 106° 17.9'W

**01AGL B 400MSL (Re-Entry Point)**  
T MLS*C  
45° 55.0'N 106° 01.0'W

---

**FAA Form 7110-4 (6-79)**

---

**IR Coordination**
VFR terrain following authorized from C to AC within published altitude blocks. IFR terrain following authorized H to P and Q to AC within published altitude blocks. When command directives/aircraft equipment preclude IFR terrain following and IMC is encountered, maintain IFR altitude for each segment to assure terrain/obstacle clearance. Entire route is designated mountainous terrain.

ROUTE WIDTH (DESCRIBE THE WIDTH OF ALL ROUTES AND TRACKS SECTIONS IN TERMS OF MILES EITHER SIDE OF TRACK, SPECIFY WHETHER LEFT OR RIGHT OF CENTERLINE.)
3NM L/R from A to C; 3NM L/R from C to D; 8NM L/R from E to G; 10NM L/R from G to Q; 5NM L/R from Q to T; 5NM L/R from T to X; 10NM L/R from X to Y; 15NM L/R from Y to Z; 16NM L/R from Z to AD; 5NM L/R from AD to AE

SPECIAL OPERATING PROCEDURES (ENTER ALL SPECIAL PROCEDURES AND/OR REMARKS THAT ARE GENERAL IN NATURE AND NOT APPLICABLE TO ANY SPECIFIC ROUTE SEGMENT, INCLUDING THE FOLLOWING: (1) TURN RADIUS INSTRUCTIONS, IF REQUIRED; (2) TIE-IN FLIGHT SERVICE STATION LOCATION IDENTIFIER; (3) ALL PRIMARY AND ALTERNATE ENTRY POINTS; (4) ALL PRIMARY AND ALTERNATE EXIT POINTS.)
1) Tie-in FSS: Billings (NOTAM - BILL).
2) Primary entry A; Alternate entry Q; Primary exit AE; Alternate exit V.
3) Aircraft entering at O should file for IR 475A.
4) Aircraft not cleared for Powder River A MOA will file for IR-475B, exiting IR-475 at V.
5) Maneuver Area Y to AC is within Powder River A MOA. Area authorized for LOWAT IAW FAAI 7610.4. Interceptor aircraft file for Powder River A MOA. MARSA through "see and avoid" applies between aircraft on IR-475 and interceptor aircraft. VMC required for LOWAT.
6) Use caution for multiple power lines in vicinity of G and between P and Q.
7) Avoid overflight of Forest Service watch towers east of D, southeast of N and south-southwest of 0.
8) Numerous ranches entire route, avoid low overflight of livestock.
9) Use caution for bird activity F to G and H to I primarily during morning and evening hours, Apr-May and Sep-Oct.
10) Re-entry not authorized unless scheduled. Pilots must adhere to entry times to assure separation from other aircraft on the route.

ROUTE ORIGINATION

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<tr>
<th>FAA REGION</th>
<th>ATC</th>
<th>TMC</th>
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<tr>
<td>NW Mountain</td>
<td>Salt Lake</td>
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<th>DATE</th>
<th>OFFICE SYMBOL</th>
<th>AIR ROUTE TRAFFIC CONTROL CENTER</th>
<th>CONCOr NONCONC</th>
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<th>DATE</th>
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<th>REGIONAL MILITARY REPRESENTATIVE</th>
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IR Coordination

11-5-5
FIG 11-5-3
Continued

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<th>ORIGINATING ACTIVITY (DESIGNATION AND ADDRESS)</th>
<th>SCHEDULING ACTIVITY (DESIGNATION AND ADDRESS)</th>
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<td>AUTOVON NO. 1</td>
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**ROUTE DESCRIPTION**

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<tr>
<th>NFOC USE</th>
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<th>POINT</th>
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<tbody>
<tr>
<td>01AGL B 50MSL</td>
<td>U</td>
<td>MLS*C</td>
<td></td>
<td>45°57.5'N</td>
<td>105°42.5'W</td>
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<tr>
<td>01AGL B 40MSL (Alternate Exit)</td>
<td>V</td>
<td>MLS*C</td>
<td></td>
<td>46°07.0'N</td>
<td>105°28.0'W</td>
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<tr>
<td>01AGL B 40MSL</td>
<td>W</td>
<td>MLS*C</td>
<td></td>
<td>46°05.8'N</td>
<td>105°14.0'W</td>
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<tr>
<td>01AGL B 40MSL</td>
<td>X</td>
<td>MLS*C</td>
<td></td>
<td>46°00.0'N</td>
<td>105°13.8'W</td>
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<tr>
<td>01AGL B 175MSL</td>
<td>Y</td>
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<td></td>
<td>45°54.6'N</td>
<td>105°13.6'W</td>
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<td>(Start Maneuver Area)</td>
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<td>MLS*C</td>
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<td>01AGL B 175MSL</td>
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<tr>
<td>50MSL B 70MSL (Exit Point to Re-Enter)</td>
<td>AD</td>
<td>MLS*C</td>
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<td>45°15.5'N</td>
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<tr>
<td>60MSL B 80MSL</td>
<td>AE</td>
<td>SHR*C</td>
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<td>44°52.6'N</td>
<td>105°24.4'W</td>
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<td>Climbout 130MSL direct SHR 089 060</td>
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<td>Re-Entry Track: Exit Point AD</td>
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<tr>
<td>60MSL direct to</td>
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<td>MLS*C</td>
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<td>45°45.1'N</td>
<td>106°12.8'W</td>
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<tr>
<td>Descend 01AGL B 40MSL direct to</td>
<td>T</td>
<td>MLS*C</td>
<td></td>
<td>45°55.0'N</td>
<td>106°01.0'W</td>
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<td>(Execute remainder of route)</td>
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FAA Form 7110-4 (6-79)

11-5-6  IR Coordination
2/19/04 7610.4K

Continued

TERRAIN FOLLOWING OPERATIONS. (EXPLAIN PROCEDURES TO BE FOLLOWED. IF APPROPRIATE, SHOW POINT TO POINT IN SEQUENTIAL ORDER; VFR OR IFR CRITERIA AND ALTITUDES; AND OTHER INFORMATION AS NECESSARY.)

ROUTE WIDTH (DESCRIPT THE WIDTH OF ALL ROUTES AND TRACKS SEGMENTS IN TERMS OF MILES EITHER SIDE OF TRACK, SPECIFY WHETHER LEFT OR RIGHT OF CENTERLINE.)

SPECIAL OPERATING PROCEDURES (ENTER ALL SPECIAL PROCEDURES AND/OR REMARKS THAT ARE GENERAL IN NATURE AND NOT APPLICABLE TO ANY SPECIFIC ROUTE SEGMENT, INCLUDING THE FOLLOWING: (1) TURN RADIUS INSTRUCTIONS, IF REQUIRED; (2) Tie-in Flight Service Station Location Identifiers; (3) All Primary and Alternate Entry Points; (4) All Primary and Alternate Exit Points.)

11) Participating aircraft separation on IR-475, IR-475A, and IR-475B is MARSA through restrictive scheduling.
12) Contact HQ SAC/DONA for MARSA scheduling deconfliction with IR-472, 474, 478 480, 481, 483, 492, and 494.
13) Contact Denver Center as soon as practicable after passing AD for route exit on 338.2.
14) PMSV: Malmstrom - 239.8 and Ellsworth - 375.2

ROUTE ORIGINATION: 
FLIGHT SERVICE STATIONS (FOR WPDC USE)

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<tr>
<th>FAA Region</th>
<th>ARTCC</th>
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IR Coordination

11-5-7
11–5–3. ROUTE REVIEW

a. Scheduling units shall maintain records of IR usage in terms of individual aircraft operations (sorties) for the preceding calendar year.

b. ARTCC/CERAPs shall maintain usage records of all IRs in accordance with FAA Order 7210.3, Facility Operations and Administration, for the preceding 12 months.

c. Joint FAA/DOD review conferences shall be convened annually as soon as practicable after January 1 at the FAA regional level to review all IRs for DOD requirements and their aeronautical impact.

11–5–4. EFFECTIVE DATE

a. New routes shall not become effective until published in the DOD FLIP Area Planning booklets, AP/1B or AP/3, as appropriate.

b. Revisions/corrections to existing routes shall not become effective until published in the DOD FLIP AP/1B or AP/3 booklets, or published in a DOD Planning Change Notice (PCN) and issued as a Flight Data Center (FDC) NOTAM.
Section 6. IR Route Use

11–6–1. SCHEDULING

a. Each IR route shall have a designated military unit responsible for scheduling all military flights intending to use the IR route. If the designated military unit does not have a continuous point of contact; i.e., a unit subject to deployment or a unit not available during normal work days (ANG unit working Wednesday–Sunday), then an alternate scheduling agency shall be designated. All flights on the IR route will be scheduled through the primary or alternate scheduling agency.

b. The scheduling activity shall confirm on a daily basis (to the extent practicable, prior to 2400 hours) with the tie–in AFSS/FSS of the planned utilization of the route. Unless otherwise agreed to, such scheduling shall be accomplished at least 2 hours prior to use. Scheduling agencies shall provide an hourly schedule for each route which includes route number, aircraft type and number, proposed entry/exit time, and altitude. Scheduling agencies should make every effort to pass changes as soon as possible to the tie–in AFSS/FSS when a particular route is closed or a scheduled aircraft cancels.

EXAMPLE–
IR101 0900–1000 2/F–14
0915–1000
SFC B–50 MSL
1000–1100 None
1100–1200 4/F–14
1105–1150
20 MSL–40 MSL

EXAMPLE–
IR102 0900–1000 1/T–38
0902–0944
30 MSL–40 MSL
1000–1100 1/F–14
1000–1015
SFC B–50 MSL
1100–1200 None

c. For special missions such as ORI, IR scheduling may occur well in advance of route use. In such cases, the scheduling unit may require a written confirmation prior to actual route utilization by the using unit.

11–6–2. LETTERS OF AGREEMENT–IR

a. A letter of agreement, when required, shall be concluded between the military scheduling activity and the ARTCC/CERAP in whose area the IR originates. This ARTCC/CERAP responsibility may be performed by any affected ATC facility if so coordinated and agreed to. The letter of agreement, governing special conditions of use and procedures, shall be authorized (signed) by the affected ATC facility air traffic manager and the military representatives of the originating/scheduling activity.

b. Each IR will have a designated military office responsible for scheduling all military flights, regardless of command/service, for use of the IR. IRs shall not be used for military training unless scheduled. When the use of an IR is requested by a military user, the military scheduling activity has the responsibility for scheduling the flight and advising the user of the operational procedures contained in the letter of agreement.

11–6–3. TIE–IN FLIGHT SERVICE STATION

The tie–in AFSS/FSS for the scheduling activity is specified in FAA Order 7110.10, Flight Services. Tie–in AFSS/FSSs shall be on the ARTCC/CERAP distribution list to receive copies and changes to all letters of agreement concerning IRs.

11–6–4. ADVISORY AND OPERATIONAL STATUS MESSAGES

When requested by the scheduling activity, ATC may relay advisory/operational messages to participating aircraft.

11–6–5. FLIGHT PLAN REQUIREMENTS

a. All IR operations shall be conducted on IFR flight plans or approved altitude reservations.

b. Unless otherwise agreed to, flight plans shall be filed in accordance with the following format:

1. The entry fix in terms of fix/radial/distance (FRD), route designator, and exit fix in terms of FRD followed by the balance of the route of flight. The entry and exit fix must be associated with a fix on the route, and the entry fix must be prior to the exit fix on the route.
2. Routes having re-entries for a single Electronic Scoring Site (ESS) shall contain the entry or alternate entry fix in terms of FRD, the route designator followed immediately by a plus sign (+), either the letter “R” (1st ESS) or “S” (2nd ESS), and a digit indicating the number of re-entries.

EXAMPLE–
(FRD) IR240+R2 (FRD)
(FRD) IR240+S3 (FRD)

3. Routes having re-entries for two ESS sites shall contain the entry/alternate fix in terms of FRD, the route designator followed immediately by a plus sign (+), the letter “R” and a digit indicating the number of re-entries on the first ESS, immediately followed by a second plus sign (+), the letter “S” and a digit indicating the number of re-entries on the second ESS.

EXAMPLE–
(FRD) IR240+R2+S3 (FRD)

4. ESS routes must be entered and exited at the respective primary fix. Alternate ESS routes must be entered/exited at the alternate entry/exit fix. The routes must be identified by an individual name.

EXAMPLE–
(FRD) IR240+R2+R2 (FRD)

5. Remarks.

(a) The remarks portion of a flight plan containing an IR shall be consolidated into groups containing the following data if appropriate. Information contained in the route of flight section of the military flight plan need not be repeated in the remarks section.

(1) Group One.

[a] IR designator; e.g., IR101.
[b] The letter “E” and a four-digit time group indicating the entry/alternate entry time.
[c] The letter “X” and a four-digit time group indicating the exit/alternate exit time.

EXAMPLE–
IR101E1617X1815
IR102E1802X1845

(2) Group Two. Any other remarks not contained in Group One may be separated by blank spaces, dashes, or slant bars for the sake of clarity.

(b) Group One remarks shall be formatted in consecutive sequence without blank spaces in accordance with the following:

(1) Flight plans where the entire route of flight remains within the ARTCC’s area in which the flight departed:

[a] Clear weather symbol (\(/\).)
[b] IR designator.
[c] Group One remarks.
[d] Group Two remarks if appropriate.

EXAMPLE–
\(/\ IR101E1617X1815
MARSA . . . (etc.)

(2) Flight plans where the route of flight enters more than one ARTCC’s area and an IR is completed before the aircraft exits the ARTCC’s area in which the flight departed:

[a] Overcast weather symbol (\(\oplus\)).
[b] IR designator.
[c] Group One remarks.
[d] Clear weather symbol (\(/\).)
[e] Group Two remarks if appropriate.

EXAMPLE–
\(\oplus\ IR101E1802X18450AR20
HFAKR1233 . . . (etc.)

(3) Flight plans where the route of flight enters more than one ARTCC’s area and an IR is completed after the aircraft has exited the ARTCC’s area where the aircraft departed:

[a] Clear weather symbol (\(/\).)
[b] IR designator.
[c] Group One remarks.
[d] Group Two remarks if appropriate.

EXAMPLE–
\(/\ IR101E1802X1845
MARSA . . . (etc.)

(4) Flight plans where the route of flight enters more than one ARTCC’s area and an IR is completed after the aircraft has exited the ARTCC’s area where the aircraft departed, and the Group Two
Remarks are concluded before exiting the ARTCC’s area in which the flight departed.

[a] Overcast weather symbol (\(\oplus\)).
[b] Group Two remarks.
[c] Clear weather symbol (\(\ominus\)).
[d] IR designator.
[e] Group One remarks.

**EXAMPLE**–
\(\oplus\) AR20HFAKRI233\(\ominus\) IR101E
1802X1845

11−6−6. IR USE DENIAL

ATC facilities should not deny the use of IRs. ATC delays may be imposed when conditions preclude route usage as scheduled. When delays are anticipated, ATC facilities shall advise the pilot/scheduling unit of the expected delay and the reasons for the delay.

11−6−7. ROUTE ADHERENCE

Pilots shall be responsible for:

[a] Remaining within the confines of the published route width and altitude.

[b] Obtaining a specific ATC entry clearance from the appropriate ATC facility prior to entering the IR.

[c] Unless otherwise agreed to in a letter of agreement, obtaining an IFR ATC exit clearance prior to exiting the IR.

[d] Adhering to the provisions of 14 CFR 91.119 (Minimum Safe Altitude, General). Routes may be flown IFR contrary to 14 CFR Section 91.177 (Minimum Altitude for IFR Operations) when specifically authorized by the appropriate military authority.

11−6−8. SPEED AUTHORIZATION

Flight shall be conducted at the minimum speed compatible with mission requirements. When exiting an MTR below 10,000 feet MSL, the flight shall comply with 14 CFR Section 91.117 (aircraft speed) or the current authorization granted to DOD.

11−6−9. ENTRY/EXIT PROCEDURES

All IR entries and exits shall be accomplished at published entry and exit points, or published alternate entry and exit points, unless the pilot amends/cancels his/her IFR flight plan.

11−6−10. COMMUNICATION FAILURE

Unless otherwise covered in a letter of agreement, each pilot who has a two−way radio communications failure when operating on an IR (between the entry and exit point) shall comply as follows:

[a] VFR Conditions. If the failure occurs in VFR conditions, or if VFR conditions are encountered after the failure, each pilot shall continue the flight VFR and land as soon as practical. (14 CFR Section 91.185b /DOD IFR Supplement.)

[b] IFR Conditions. If the failure occurs in IFR conditions, or if subparagraph a above cannot be complied with, each pilot shall:

1. Maintain to the exit/alternate exit point the higher of the following:
   
   (a) The minimum IFR altitude for each of the remaining route segment(s).
   
   (b) The highest altitude assigned in the last ATC clearance.

2. Depart the exit/alternate exit point at the altitude determined in subparagraph 1 above; then climb/descend to the altitude filed in the flight plan for the remainder of the flight.

11−6−11. LOST COMMUNICATIONS TRANSPONDER OPERATIONS

Refer to transponder procedures in DOD FLIP, IFR Supplement and the AIM.

11−6−12. SEPARATION OF PARTICIPATING AIRCRAFT

[a] To the extent practicable, IRs should be established for standard ATC services and approved separation applied between individual aircraft.

[b] If the provisions of subparagraph a cannot be applied because of mission requirements, crossing routes, or ATC limitations, routes may be designated for MARSA operations. The procedures for applying MARSA shall be contained in the letter of agreement between the scheduling unit and the appropriate ATC.
facility. Specific MARSA operating procedures shall be contained in the DOD FLIP AP/1B and AP/3 narrative description of the route.

NOTE—
ATC facilities’ sole responsibility concerning the use of MARSA is to provide separation between participating and nonparticipating aircraft. (See paragraph 1–4–8, Use of Military Authority Assumes Responsibility for Separation of Aircraft (MARSA).)

c. When MARSA is provided through route scheduling and circumstances prevent the pilot from entering the route within established time limits, it shall be the responsibility of the pilot to inform the ATC facility and advise of his/her intentions.
Section 7. VR Route Definition

11−7−1. ROUTE WIDTH
Widths of route segments shall be defined by the military. In all cases, the route width shall be of sufficient size to contain all planned activities. For cartographical purposes, the standard route width shall be 5 NM.

11−7−2. ROUTE ALIGNMENT
Route alignment criteria shall be as follows:

   a. Route widths shall be designed to avoid Class B and C airspace areas. Additionally, route widths shall be designed to avoid Class D and E surface areas below 3,000 feet AGL.

   b. All VRs to be flown at/below 1,500 feet AGL should be designed to permit aircraft flying the route to avoid charted, uncontrolled airports by 3 NM or 1,500 feet. Where it is impractical to comply with this criteria, procedures shall be established by the scheduling/originating agency to minimize conflict with airport traffic; i.e., identify volume and type traffic, highlight need for increased vigilance commensurate with the situation, maintain liaison with airport owner/operator, include appropriate cautionary note in route description: “Avoid flight within 1,500 feet or 3 NM of airport, when practicable,” etc.

   c. Subsequent charting of airports within 3 NM of an MTR may require route alignment to conform to the criteria established in subparagraph b.

   d. Routes should be aligned to avoid Class B airspace.

   e. During development of routes, consideration should be given to potential conflict with published and unpublished instrument procedures/routes.

   f. Routes should be aligned so that disturbance to persons or property on the ground is minimized.

11−7−3. ALTITUDES
Altitudes shall be established for each route segment. Routes shall contain the minimum number of altitudes commensurate with mission requirements and may be specified singly, or in block. Minimum altitudes for each route segment shall be established by the military. Altitude information shall be reflected on FAA Form 7110−4 as follows:

   a. The lowest altitude may be depicted in either MSL or AGL terms. The highest altitudes may be depicted in AGL terms at 1,500 feet and below, but all altitudes above 1,500 feet AGL shall be depicted in MSL terms.

   b. An altitude block shall be depicted as the lowest altitude, followed by a “B,” followed by the highest altitude.

   EXAMPLE−
   SFC B 50 MSL
   4 MSL B 15 MSL
   SFC B 15 AGL

   c. All altitudes shall be established by the military. In no case will operations be conducted at altitudes less than those specified in 14 CFR 91.119.

11−7−4. ROUTE ENTRY AND EXIT POINTS
Route entry and exit points should be compatible with ATC requirements for operating IFR to and from the route.

11−7−5. ALTERNATE ENTRY/EXIT/END POINTS

   a. Any point on the route may be identified as an alternate entry/exit/end point. Entry points must precede exit points on the routes/alternate routes with which they are associated. Additionally, compatibility with ATC requirements for operating IFR to/from the route shall be considered.

   b. Whenever a route is modified by designating alternate entry/exit/end points, the route segments associated with the alternate points shall be considered modifications to the basic/principal route and may be described and designated as alternate routes.

   c. Any alternate route segments shall meet all of the requirements pertinent to the establishment of new routes.

11−7−6. SPECIAL OPERATING PROCEDURES
Special operating procedures may be imposed but shall be held to the minimum required. These procedures may be applied on a route segment basis and need not apply to the entire route. Such procedures shall be a part of the narrative route description as published in the NFDD and the DOD FLIP AP/1B and AP/3.
Section 8. VR Coordination

11–8–1. ESTABLISHING OR REVISING ROUTES

a. Military activities may request establishment of a VR above 1,500 feet AGL when:
   
1. A determination has been made by appropriate military headquarters that other alternatives have been explored; e.g., use of existing IRs, existing MOAs, restricted areas, or other routes; and
   
2. An IR request cannot be approved or an established IR has been proven to be unsatisfactory and has been so documented by the route proponent and respective ATC facility; and
   
3. The requirement has been validated by the appropriate military major/type command headquarters and documented in writing. This determination shall become part of the route proposal.

b. Military activities establishing routes to be flown entirely at or below 1,500 feet AGL and in visual meteorological conditions need not attempt to establish an IR as outlined in subparagraph a2.

c. Route proposals shall be:
   
1. Coordinated with other affected military organizations.
   
2. Operationally flight-evaluated for the entire route to ensure compatibility with obstacle clearance, navigability, etc.
   
3. Forwarded to the appropriate military major/type command headquarters for approval or disapproval and environmental certification.

d. Following approval, the military headquarters shall forward the proposal to the military representative at the FAA region in which the route originates. All route requests or route amendments shall be submitted on FAA Form 7110–4 (FIG 11–5–3).

e. The military representative shall review the proposals for compliance with this criteria, coordinate with other representatives, and then submit them to the FAA regional air traffic division.

f. The FAA regional air traffic divisions shall:
   
1. Review documentation associated with route proposals.
   
2. Coordinate all proposals with other interested FAA divisions.
   
3. Determine if further actions may feasibly result in future agreement on use of the associated IR route.
   
4. Determine when proposals will increase the burden on civil users of the navigable airspace, and coordinate those proposals with the appropriate civil aviation user groups.
   
5. Notify the regional military representatives, in writing, of their findings within 45 days of receipt of the original proposal.

g. Final approval authority for the establishment of VRs rests with the appropriate military major/type command headquarters.

h. All route proposals shall be illustrated on a current sectional chart (not required for revisions which do not affect route alignment) with the routes depicted as follows:
   
1. Lines defining the route widths.
   
2. Altitudes along each route segment expressed in hundreds of feet AGL or MSL, as appropriate. Altitude blocks shall be indicated by separating the altitudes in accordance with paragraph 11–7–3, Altitudes.
   
3. Each point/fix, including turn points, shall be identified by sequential alphabetical lettering.

11–8–2. PUBLICATION

a. The FAA regional air traffic division in whose area the route originates shall submit the approved FAA Form 7110–4 containing the route descriptive data to the NFDC at least 9 weeks prior to the requested/required airspace effective date. Send a copy to the appropriate regional military representative.

   1. The NFDC shall issue the official, complete route description via the National Flight Data Digest (NFDD). It shall be published in the same format as FAA Form 7110–4.

   2. The DOD FLIP area planning booklets, AP/1B or AP/3, as appropriate, shall be the official
source of MTR descriptions for military users. It shall be published in the same format as FAA Form 7110–4.

b. Military originating activities shall review VR data published in the DOD FLIP AP/1B and AP/3 booklets and charts for accuracy and inform the appropriate regional military representative whenever a disparity exists between that which was submitted and that which was published.

11–8–3. ROUTE REVIEW

a. Scheduling units shall maintain records of VR usage in terms of individual aircraft operations (sorties) for the preceding calendar year.

b. Joint FAA/DOD review conferences shall be convened annually as soon as practicable after January 1 at the FAA regional level to review all VRs for DOD requirements and their aeronautical impact.

11–8–4. EFFECTIVE DATE

a. New routes shall not become effective until published in the DOD FLIP area planning booklets, AP/1B or AP/3 as appropriate.

b. Revisions/corrections to existing routes shall not become effective until published in the DOD FLIP AP/1B or AP/3 booklets, or published in a DOD Planning Change Notice (PCN) and issued as a Flight Data Center (FDC) NOTAM.
Section 9. VR Route Use

11−9−1. SCHEDULING

a. Each VR route shall have a designated military unit responsible for scheduling all military flights intending to use the VR route. If the designated military unit does not have a continuous point of contact; i.e., a unit subject to deployment or a unit not available during normal work days (ANG unit working Wednesday−Sunday), then an alternate scheduling agency shall be designated. All flights on the VR route will be scheduled through the primary or alternate scheduling agency.

b. The scheduling activity shall confirm on a daily basis (to the extent practicable, prior to 2400 hours) with the tie−in AFSS/FSS of the planned utilization of the route. Unless otherwise agreed, such scheduling shall be accomplished at least 2 hours prior to use. Scheduling agencies shall provide an hourly schedule for each route which includes route number, aircraft type and number, proposed entry/exit time, and altitude. Scheduling agencies should make every effort to pass changes as soon as possible to the tie−in AFSS/FSS when a particular route is closed or a scheduled aircraft cancels.

EXAMPLE−
VR101 0900−1000 2/F−14
0915−1000
SFC B−50 MSL
1000−1100 None
1100−1200 4/F−14
1105−1150
20 MSL−40 MSL
VR102 0900−1000 1/T−38
0902−0944
30 MSL−40 MSL
1000−1100 1/F−14
1000−1015
SFC B−50 MSL
1100−1200 None

11−9−2. COMPLIANCE

It is the responsibility of the scheduling activity to ensure that all VR users are knowledgeable of the respective route procedures. Individual users are responsible for compliance.

11−9−3. TIE−IN FLIGHT SERVICE STATION

The AFSS/FSS handling the flight planning function for the military base where the scheduling unit is located is normally the tie−in AFSS/FSS in accordance with FAA Order 7110.10, Flight Services. Tie−in AFSS/FSSs shall be on the center distribution list to receive copies of, and changes to, all letters of agreement concerning VRs for which they have been designated as the tie−in AFSS/FSS.

11−9−4. MONITOR 255.4 MHZ

Pilots should monitor 255.4 MHz while on VRs when it is not detrimental to the mission accomplishment. This does not preclude the use of tactical or discrete frequencies.

11−9−5. FLIGHT PLAN REQUIREMENTS

a. Pilots departing on IFR clearances to fly VRs are required to file to the fix/radial/distance of their entry/alternate entry point of the route.

b. Pilots transitioning to IFR upon exiting the VR are required to have on file a previously filed IFR flight plan from the appropriate fix/radial/distance of their exit point.

NOTE−
Composite IFR−VFR−IFR flight plans may be filed with the appropriate FSS. Stereotype flight plans could be an advantage to flight planning.

11−9−6. ROUTE ADHERENCE

Pilots of flights on VRs shall be responsible for remaining within the lateral and vertical confines of the route.

11−9−7. SPEED AUTHORIZATION

Flights shall be conducted at the minimum speed compatible with mission requirements. When exiting an MTR below 10,000 feet MSL, the flight shall comply with 14 CFR 91.117 (aircraft speed) or current authorization issued to DOD. (See Appendix 18.)
11–9–8. WEATHER MINIMUMS

Operations on the route shall be conducted only when the weather is at or above VFR minima, except that:

a. Flight visibility shall be 5 miles or more; and

b. Flights shall not be conducted below a ceiling of less than 3,000 feet AGL.

11–9–9. TRANSPONDER PROCEDURES

Pilots of aircraft operating on a VR route will adjust their transponder to code 4000 unless otherwise assigned by ATC.
Chapter 12. Special Military Flights and Operations

Section 1. Night Watch

12–1–1. APPLICATIONS

The National Airborne Operations Center (NAOC) is a special military operation named “Night Watch.” The remarks section of the flight plan will contain the term “NAOC” pronounced “nay ock” when special handling is requested. The term “NAOC” will not be part of the call sign but can be used when the aircraft is airborne to indicate a request for special handling. When NAOC appears in the remarks section of the flight plan, radar information shall be forwarded in accordance with paragraph 12–3–3, Radar Identification of USSTRATCOM Emergency War Order (EWO) Flights.

12–1–2. OPERATIONS

Operations in this category are as follows:

a. Practice Exercise. An exercise conducted at random for proficiency training.

b. Planned Exercise. An exercise with advance notification as to date and probable departure forwarded to the appropriate air traffic control terminal and en route facility.

12–1–3. CLASSIFICATION

Although the specific information contained in these instructions is not classified, the purpose and status of the operation to which it relates are classified as secret information.
Section 2. USSTRATCOM Attack Command and Control System (SCACS) Aircraft Operations

12–2–1. SCACS AIRCRAFT

The USSTRATCOM Airborne Command Post (STRAT ABNCP) and Take Charge and Move Out (TACAMO) aircraft operate continuously in areas that have been coordinated with appropriate centers. When the SCACS aircraft are launched, they will proceed from the launch base or daily orbit area to a pre-designated SCACS area. The system is exercised approximately four (4) times each month for STRAT ABNCP and daily for TACAMO.

12–2–2. LAUNCHING OF POST ATTACK COMMAND AND CONTROL SYSTEM (PACCS) AIRCRAFT

a. OLYMPIC SHOT – Unclassified name used to notify ATC facilities and NORAD of launching of SCACS aircraft under emergency conditions. Emergency launch of the SCACS aircraft may occur prior to, or in conjunction with, the launch of alert aircraft (Bust Out).

b. GIANT SHOT – Unclassified name used to notify ATC facilities and NORAD of launching of SCACS aircraft under training conditions. Notice to concerned ATC facilities will be made prior to planned launch. ACC/AMC units are responsible for maintaining current flight plans on file at ATC facilities.

12–2–3. OPERATIONS ON AN ALTRV

SCACS aircraft will operate on an ALTRV provided the orbit areas have been coordinated and approved by the ARTCC/CERAP concerned. When necessary, pilots will accept a clearance or radar vector to any point that will not result in placing the aircraft outside the orbit pattern perimeter.

12–2–4. CLASSIFICATION

Although the specific information contained in these instructions is not classified, the purpose and status of the operation to which it relates are classified as secret information.

12–2–5. SCACS LAUNCH SCHEDULE

Headquarters ACC and Commander USSTRATCOM Wing One will furnish CARF with a quarterly SCACS launch schedule and monthly ALTRV request, and CARF will issue a stationary altitude reservation approval to the appropriate ARTCC/CERAPs and military addressees.
Section 3. Other USSTRATCOM Coded Flights

12−3−1. BUST OUT
The name of a USSTRATCOM operation used to notify ATC facilities and NORAD of the No−Notice launch of the USSTRATCOM positive control force, dispersing reconnaissance aircraft, and associated tankers. Additional information regarding this operation may be located in secure files of the ARTCC/ CERAPs concerned.

12−3−2. BUGGY RIDE
The term is used to notify FAA facilities of the need for expeditious departure from a ACC/AMC base due to a civil disturbance or disaster. Particular aircraft with their associated tankers may, for reasons of safety and survival, need an immediate departure. It is important to ensure that the strike force remains intact. The term “Buggy Ride” will not appear in any flight plan but will be transmitted to the appropriate ATC facilities via base operations at the time the aircraft commences taxi.

12−3−3. RADAR IDENTIFICATION OF USSTRATCOM EMERGENCY WAR ORDER (EWO) FLIGHTS
FAA air traffic control facilities shall provide radar identification on USSTRATCOM EWO aircraft (identified by appropriate USSTRATCOM authority) as follows:

a. During peacetime, the radar identification function on USSTRATCOM EWO aircraft to air defense facilities shall be subordinate to the control of air traffic.

b. The FAA radar range scale shall not be expanded beyond the range normally used for air traffic control purposes in order to provide radar identification.

c. Where FAA radar coverage overlaps air defense radar coverage, use the Aerospace Defense Command aircraft movement information service (AMIS) or liaison circuits, where available, to forward radar identification on USSTRATCOM EWO aircraft to air defense facilities in lieu of a separate landline.

d. Separate landlines may be installed to provide radar identification hand−offs on USSTRATCOM EWO aircraft to air defense facilities if no alternative means of communication is available, except that landlines shall not be installed at those locations where FAA and air defense radar coverage does not overlap.

e. Where a separate landline is installed, provide an ON/OFF switch in the air traffic control facility. Retain the switch in the OFF position until informed by the appropriate USSTRATCOM authority that a USSTRATCOM EWO mission is to be executed.

f. Where necessary, supplementary procedures to provide radar identification on USSTRATCOM EWO aircraft to air defense facilities may be developed at a local level.

NOTE−
The implementation and continuation of this service is dependent upon joint USAF/FAA regional evaluation of the capability of each selected air base complex to conform to the conditions specified above and upon USAF funding for installation and maintenance of separate landlines where required.
Section 4. Nuclear Accidents/Sampling

12–4–1. “FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS

The Defense Nuclear Agency (DNA), a Department of Defense organization, and the Department of Energy have established Nuclear Emergency Teams throughout the United States. The code name “Flynet” indicates that an aircraft is transporting a Nuclear Emergency Team or a Disaster Response Team to a potential or actual nuclear accident or an accident involving chemical agents or hazardous materials. These teams are on call around-the-clock to proceed to any location within their areas of responsibility, and it is in the public interest that they reach their destination as rapidly as possible. The following procedures apply:

a. The code name “Flynet” will be included in the remarks portion of the flight plans. U.S. Government, civil, and military aircraft will be used to airlift these teams.

b. ATC personnel shall make every effort to expedite the movement of “Flynet” aircraft.

12–4–2. NUCLEAR WEAPON ACCIDENTS (“BROKEN ARROW”)

a. The affected military installation (usually the Base Command Post) shall notify the ARTCC/CERAP of the following in the event of a “Broken Arrow”:

1. State the size of the predicted hazardous area and whether the airport is closed to normal traffic.

2. State if there is any intent to evacuate base aircraft by use of “Flush,” “Buggy Ride,” or other procedures.

3. State the expected duration of the emergency.

4. Advise the ARTCC/CERAP when the emergency is terminated.

b. Upon receipt of notification of a “Broken Arrow,” the ARTCC/CERAP shall:

1. Clear the predicted hazardous area of overflying IFR traffic; land or divert terminating traffic as requested by the military.

2. Coordinate with the affected terminal and flight service facilities to insure that they have been made aware of the situation and possible actions to be taken.

3. Issue a NOTAM for the benefit of VFR operators as security conditions permit.

4. If the situation warrants, establish a temporary flight restriction area in accordance with 14 CFR 91.137.

5. Expedite the arrival of “Flynet” aircraft.

6. Expedite the departure and arrival of aeromedical aircraft and any other aircraft specified by the military.

12–4–3. ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION

The USAF, Department of Energy (DOE), or other U.S. Government agencies perform aerial sampling of suspected foreign or domestic nuclear, chemical, or hazardous material contamination. Although sampler aircraft are flight planned to the potential or suspected atmospheric area of nuclear contamination, the aircraft are likely to require altitude and route changes which cannot be anticipated prior to departure. The purpose of these altitude and route changes is to permit direct contact and sampling of the “cloud” debris whose exact location and altitude distribution cannot be accurately predicted. To afford those operations optimum flexibility during profile, the following procedures are applicable:

a. Aircraft Identification. USAF, DOE, or U.S. Government aircraft engaged in aerial sampling missions shall use the call sign “SAMP” followed by the last three digits of the aircraft’s serial number; e.g., SAMP 36l, during voice communications and IFR flight plan filing.

b. USAF Technical Application Center (AFTAC), DOE, and U.S. Government aircraft performing aerial sampling missions shall:

1. Advise the ATCSCC of planned aerial sampling missions prior to the proposed time of departure. The advanced information should consist of:

(a) Aircraft identification.

(b) Departure point.
(c) Proposed departure time.

(d) Flight planned route and altitude.

NOTE—
This advanced information does not constitute the filing of an IFR flight plan. Flight plans shall be filed in accordance with procedures outlined in pertinent documents.

2. Provide the FAA, Office of Environment and Energy, Technology Division, AEE–100, with nuclear debris information obtained from “sampler” aircraft.

c. AEE–100 shall:

1. Prepare nuclear debris reports, if appropriate, based on the information received from AFTAC and other sources, and

2. Forward the nuclear debris report to the ATCSCC for distribution to user groups.

d. The ATCSCC shall:

1. Advise the concerned ATC facilities of planned aerial sampling activities (subparagraph b1).

2. Issue the nuclear debris report as an ATC advisory message to all user groups.


e. Air traffic control facilities shall:

1. Provide special handling to aircraft engaged in aerial sampling missions.

2. Honor in-flight clearance requests for altitude and route changes to the maximum extent possible. If necessary, other IFR traffic may be re-cleared so that requests by sampler aircraft are honored.

NOTE—
In no case shall the separation standards outlined in Order 7110.65, Air Traffic Control, be compromised.

3. Report any impact/problems resulting from the aerial sampling mission to the ATCSCC.

NOTE—
Controller personnel will not receive nuclear debris information from aircraft engaged in sampling missions.
Section 5. Navy Coded Flights

12−5−1. NAVY “ECHO ITEM” MISSIONS

“Echo Item” flights are active antisubmarine warfare (ASW) missions which require handling similar to Air Defense scramble operations. Aircraft engaged in these missions are identified from routine training or practice missions by use of the prefix “Echo Item.”

Air traffic control facility managers of facilities with “Echo Item” responsibilities shall develop and implement letter(s) of agreement supporting “Echo Item” operations which include the following:

a. Method of notification.

b. Procedures whereby:

1. Any conflicting traffic is controlled on the basis that the “Echo Item” aircraft will be released immediately upon request with due regard to safety.

2. The “Echo Item” aircraft is cleared to a position where it will be first in takeoff sequence unless an active Air Defense scramble is in progress.

c. The statement that the Navy assumes responsibility for separation of aircraft within the same mission.

12−5−2. SCOPELIGHT EAST/WEST FLIGHTS

Scopelight East/West is the name of a CINCLANT operation to notify ATC and NORAD facilities of the need for expeditious departure of command post aircraft during emergency conditions. Additional information regarding this operation may be located in the secure files of the concerned ARTCC/CERAPs.
Section 6. Air Defense Radar Evaluation

12–6–1. AIR DEFENSE RADAR EVALUATION

Air Defense has a continuing requirement to measure the effectiveness and quality of Air Defense radar and to establish operational limitations of new or modified radar systems. Air Defense Sectors coordinate flight details with the appropriate FAA regions and facilities before mission activation. These missions sample the performance quality of each radar. Normally, only one aircraft is needed for each flight, and it displays the ATC–assigned mode 3/A code. If two aircraft are used in the mission, the separation between these aircraft is a joint responsibility of the appropriate air defense sector and the pilots of the aircraft involved. These flights are handled as follows:

a. All evaluation flights will be conducted at or above FL 250.

b. Radar target definition checks require special spacing between two aircraft. The provision of this spacing is a joint responsibility of the appropriate air defense sector and the pilots of the aircraft involved.

c. Evaluation aircraft shall file an IFR flight plan. The ATC facility is responsible for separation of the evaluation aircraft from other IFR traffic. These aircraft shall be handed off to the Air Defense Control Facility (ADCF) prior to the evaluation route initial point (IP).
Section 7. Special Air Mission/Scoot

12–7–1. APPLICATIONS
This special air mission/senior executive support service provides responsive and reliable air transportation for senior level Federal Government and White House staff personnel. The service also provides overseas transportation for small presidential delegations in support of time-critical negotiations involving international crisis situations. This service is operated by the 89th Military Airlift Wing flying C–20 series aircraft. This special military operation is named “Scoot.” The remarks section of the flight plan will contain the term “SCOOT” when special handling is requested. The term “Scoot” will not be part of the call sign but can be used when the aircraft is airborne to indicate a request for special handling.

12–7–2. OPERATIONS
Operations in this category are as follows:

   a. Practice Exercise. An exercise conducted at random for proficiency training.

   b. Planned Exercise. An exercise with advance notification as to date and probable departure forwarded to the appropriate air traffic control terminal and en route facility.
Section 8. Cruise Missile Operations

12-8-1. PURPOSE
This section prescribes policy, route development criteria, coordination procedures, special operating procedures, and additional publication requirements for cruise missile operations.

12-8-2. POLICY
Cruise missile operations conducted in excess of 250 knots below 10,000 feet MSL shall be conducted in (1) restricted areas, (2) military operations areas, and/or (3) selected IRs in accordance with this descending order of precedence regarding airspace allocations and routes.

12-8-3. OPERATIONAL CONDITIONS
Cruise missile operations conducted outside restricted areas within the United States shall be in accordance with the following conditions:

a. Cruise missiles shall be accompanied by two chase aircraft escorting the cruise missile. The chase aircraft must at all times have the ability to maneuver the missile out of the flight path of conflicting traffic, fully complying with all provisions of 14 CFR Part 91, subpart B.

NOTE—Exception: In the event a mechanical difficulty occurs with one of the chase aircraft, a single chase aircraft shall have two crew members and the ability to maneuver the missile as noted in subparagraph a.

b. A high altitude communications aircraft shall be used in conjunction with the cruise missile and shall maintain continuous communication and radar contact with the appropriate ATC facility. It shall be the responsibility of the pilot of the communication aircraft to ensure all other involved aircraft receive all ATC communications.

c. Cruise missile operations shall be conducted in daylight hours only under visual flight rules conditions; flight visibility 5 miles, and distance from clouds 2,000 feet horizontal and 1,000 feet above/below and in accordance with 14 CFR Section 91.119.

d. Cruise missile operations shall be contained in a letter of agreement (LOA). As a minimum, each LOA shall contain special operating procedures, responsibilities of scheduling unit, advance mission briefing, actual flight operations, lost communication procedure, and airspace allocation in use.

12-8-4. ROUTE DESIGNATION (CRITERIA) AND OPERATING PROCEDURES
Cruise missile operations conducted on selected MTRs shall be on IRs only. All IRs used for this purpose shall be developed in accordance with the criteria, route definition, processing, and operating procedures contained in Chapter 11.

12-8-5. PUBLICATION
In addition to the publication requirements in Chapter 11 regarding IRs, the unmanned aerospace vehicle routes (UAVRS) shall be portrayed by special charting symbology contained in Interagency Air Cartographic Committee (IACC) requirements documentation, IACC-2.

12-8-6. EFFECTIVE DATE
Prior to establishing the effective date of airspace allocations/IRs/LOAs to be used for cruise missile operations, the originating FAA region shall forward copies of proposed actions to FAA headquarters, ATP-200, for review and approval.
Section 9. Remotely Operated Aircraft (ROA)

12–9–1. OPERATION
   a. ROA Operations should normally be conducted in the following areas:
      1. Within Restricted Areas.
      2. Within Warning Areas.
   b. For those operations that cannot be contained wholly within Restricted Areas or Warning Areas, the ROA operations shall be conducted in accordance with procedures outlined in paragraph 12–9–2, Procedures.

   NOTE–
   Procedures for nonjoint–use DOD airfield operations will be as specified by DOD.

12–9–2. PROCEDURES
ROAs operating outside Restricted Areas and Warning Areas shall comply with the following:
   a. At least 60 days prior to the proposed commencement of ROA operations, the proponent shall submit an application for a Certificate of Authorization (COA) to the Air Traffic Division of the appropriate FAA regional office. COA guidance can be found in FAA Order 7210.3, Facility Operation and Administration, Part 6, Chapter 18, Waivers, Authorizations, Exemptions, and Flight Restrictions. The following documentation should be included in the request:

   NOTE–
   In the event of real–time, short notice, contingency operations, this lead time may be reduced to the absolute minimum necessary to safely accomplish the mission.

      1. Detailed description of the intended flight operation including the classification of the airspace to be utilized.
      2. ROA physical characteristics.
      3. Flight performance characteristics.
      4. Method of pilotage and proposed method to avoid other traffic.

   NOTE–
   Approvals for ROA operations should require the proponent to provide the ROA with a method that provides an equivalent level of safety, comparable to see–and–avoid requirements for manned aircraft. Methods to consider include, but are not limited to; radar observation, forward or side looking cameras, electronic detection systems, visual observation from one or more ground sites, monitored by patrol or chase aircraft, or a combination thereof.
      5. Coordination procedures.
      6. Communications procedures.
      7. Route and altitude procedures.
      8. Lost link/mission abort procedures.
      9. A statement from the DOD proponent that the ROA is airworthy.

   NOTE–
   The proponent should ensure that the ROA contains a means to safely terminate the flight, follow specified and defined procedures for mission abort, or proceed in accordance with specific flight termination procedures.

   b. COAs shall have an effective date with a duration not to exceed 1 year unless renewed or revalidated. The COA expires on the stated termination date, unless sooner surrendered by the proponent, or revoked by the issuing agency.

   c. ROAs shall be equipped with standard aircraft anti–collision lights in accordance with criteria stipulated in 14 CFR Section 23.1401. These lights shall be operated during all phases of flight in order to enhance flight safety.

   d. ROAs shall be equipped with an altitude encoding transponder that meets the specifications of 14 CFR Section 91.215. The transponder shall be set to operate on a code assigned by air traffic control. Unless the use of a specific, special–use code is authorized, the ROA pilot–in–command shall have the capability to reset the transponder code while the ROA is airborne. If the transponder becomes inoperative, at the discretion of the affected region or air traffic facility, the mission may be canceled and/or recalled.

   e. Instantaneous two–way radio communication with all affected ATC facilities is required. For limited range, short duration flights, proponents may request relief from radio requirements provided a suitable means of alternate communication is available. Compliance with all ATC clearances is mandatory.
f. The proponent and/or its representatives, shall be noted as responsible at all times for collision avoidance maneuvers with nonparticipating aircraft and the safety of persons or property on the surface.
Section 10. USAF Undergraduate Flying Training (UFT)/Pilot Instructor Training (PIT)

12−10−1. DEFINITIONS
The term UFT includes:

- a. Flight Screening Program (FSP).
- b. Undergraduate Pilot Training/Specialized Undergraduate Pilot Training (UPT/SUPT).
- d. Specialized Undergraduate Navigator Training (SUNT).

12−10−2. KEY OPERATIONAL CONSTRAINTS

- a. Sortie Duration: T−37 and T−38 sorties normally average 1 hour and 20 minutes. T−6 sorties normally average 1 hour and 30 minutes. T−1 sorties normally average 3 hours.
- b. Student Pilot Solo Operations.
  1. Instrument flight: Certified solo students may penetrate cloud layers in climb and descent only. In level flight, expect requests for revised clearances to avoid clouds. Solo students may request an amended clearance to permit deviation from assigned course as necessary to remain in visual meteorological conditions (see FAA Order 7110.65, Air Traffic Control). Solo student requests for deviations are time critical and air traffic control shall approve these requests as soon as possible. If a student pilot refuses to accept a radar vector or clearance, make a record of the occurrence (including the pilot’s reasons for refusal, if known), and retain it at the facility for 6 months.
  2. Diverts: Unplanned diversions may require solos to land at other than military installations. UFT instructor pilots may require access to FAA air traffic control facilities to act as safety observers in support of these solo missions. Instructor pilot access authorization and activity limitations shall be defined in appropriate documents by affected facilities.
- c. T−38 Icing Restrictions: T−38s cannot operate at altitudes where icing is forecast. When encountering ice (not forecast), expeditious assignment of an altitude above or below the icing level is critical because engine failure is probable.

12−10−3. RADAR SERVICE REQUIREMENTS

- a. Air traffic control facilities shall provide IFR radar surveillance and separation service from points on or near Air Education and Training Command (AETC) bases or auxiliaries to defined training areas and from training area return points where approach control service can be discontinued via hand−off to ground controlled approach (GCA), tower, or runway supervisory unit (RSU). IFR service is also required to and from the local auxiliary fields and boondock instrument practice sites.
- b. AETC training flights operating in the en route system to and from airports outside local training areas shall be provided IFR separation service.
- c. A minimum number of sorties shall be flown VFR in accordance with the syllabus training requirements. VFR advisory service shall be provided to these flights to the extent practicable.

12−10−4. MERGING TARGET VS STANDARD IFR SEPARATION

Application of merging target procedures must be outlined in a letter of agreement between the controlling agency and the using agency. UFT/PIT aircraft shall be provided standard IFR separation until established in the MOA/ATCAA. Once established within the MOA/ATCAA, these flights may be provided merging target procedures.

12−10−5. AIRSPACE REQUIREMENTS

Below 18,000 feet MSL, training areas shall be contained within MOAs. In the Class A Airspace, training areas shall be contained within ATCAA. The goal is to warn other IFR and VFR traffic of the high volume and nature of traffic operating therein. Under SUPT, the T−38 and T−1 will use the same geographical working areas, and operations shall be segregated by sterilized block times.

- a. NAVAID definition: Individual T−1, T−6, T−37, and T−38 training areas shall be defined by VORTAC/TACAN arcs and radials. Conspicuous ground features also identify each area.
- b. Training area size: Training area sizes are varied to accommodate the type of flying (contact,
formation, instrument, etc.). Area configuration shall be adjusted only when necessary and letters of agreement are revised. T−6/T−37 training areas shall provide a minimum of 100 square nautical miles of usable airspace. T−38 and T−1 training areas shall provide a minimum of 200 square nautical miles of usable airspace.

c. Altitude blocks. As a minimum:

1. T−6/T−37 training areas shall extend downward from FL 240 at least 11,000 feet and be subdivided into two blocks of 5,000 feet.

2. T−38 high altitude training areas shall extend above FL 240 at least 4,000 feet and low areas shall extend at least 12,000 feet below FL 240.

3. T−1 high altitude training areas shall extend above FL 240 at least 4,000 feet and low areas shall extend 4,000 feet below FL 240.

d. Number of areas: Coupled with smooth flow scheduling, the following minimum numbers of local training areas guarantee successful completion of AETC mission without saturating airspace. As a minimum:

1. T−6/T−37: 18 training areas (9 high/9 low).

2. T−38/T−1: 16 training areas (5 high/11 low).

3. PIT airspace requirements: PIT requires less training areas than SUPT. As a minimum:

   (a) T−6/T−37: (7 high/6 low).

   (b) T−38/T−1: (5 high/10 low).

e. Area distance: Fuel capacities and syllabus constraints require fuel efficient training areas. T−6/T−37 training areas shall be within 60 NM of the main base. T−38 and T−1 training areas shall be within 100 NM of the main base.

f. Segregation: T−6/T−37 and T−38 low areas are not intermixed but may be separated with buffers. Do not arbitrarily establish buffers as a prerequisite for the provision of IFR separation in MOA subareas. However, buffers may be established for valid operational reasons. T−38/T−1 operations may operate in adjacent training areas contained in the same MOA.

g. ARTCC/CERAPs and AFSS/FSSs in and around the training areas are aware of the activity in the local area and shall give the appropriate advisories to civil pilots when contacted.

12−10−6. MTR REQUIREMENTS

UPT/SUPT operations require access to at least six MTRs. Each UPT/SUPT wing shall have at least four of these routes.

12−10−7. COMMUNICATION REQUIREMENTS

UPT/SUPT operations require adequate air/ground communications. Flight training requires extensive instructor/student interphone communication. Prudence dictates that ground initiated instructions or advice shall be streamlined to limit interruptions and avoid derogation of the training mission.

12−10−8. SCHEDULING

At some bases, a longer scheduling interval may occasionally be necessary, but in the interest of maintaining present safety and flexibility, the minimum scheduling interval shall be 3 minutes.

12−10−9. STEREOTYPE ROUTING/FLIGHT PLANS

While radar vectoring provides flexibility, it decreases a controller’s capacity to provide service. Monitoring of stereotype routes is preferred because it provides more effective use of controller as well as instructor/student time and talent. To cope with the high volume of traffic, the following shall be provided:

a. Stereotyped departure routes from pickup points on or near the airport to training areas and other en route points.

b. Stereotyped turboprop/turbojet en route descents from training areas or en route points to GCA, tower, or RSU hand−off for each runway and direction of operation.

c. Flight plan filing and processing shall be streamlined to the extent that the flight identification and two or three words are sufficient to tell the controller where an aircrew wants to go and what the aircrew wants to do.

12−10−10. LETTERS OF AGREEMENT (LOA)

Emergency, lost communications and all local procedures shall be documented in LOAs. Because of the volume of traffic and the complexity of operation, letters of agreement must be carefully prepared and updated frequently to ensure timely improvements of service and safety.
12–10–11. AUTHORIZATIONS

The procedures used in UFT/PIT conform with 14 CFR Part 91 (except where waived/exempted) and FAA Order 7110.65, Air Traffic Control, as supplemented by appropriate LOA processed in accordance with FAA Order 7210.3, Facility Operation and Administration. Authorized deviations are as follows:

a. Solo student pilot flying IFR as indicated in paragraph 12–10–2b.

b. Exemption 49D to 14 CFR Sections 91.153 and 91.169, Alternate Airport Requirements.

c. T–38/T–1 airspeeds in excess of 250 KIAS below 10,000 feet MSL are authorized by competent military authority in accordance with FAA Order 7110.65 and the letter of authorization granted to DOD.

d. Merging target procedures: When UPT/PIT aircraft are established in MOA/ATCAA and airspace limitations would derogate mission requirements if IFR separation were applied, the following radar procedures may be used during VFR weather conditions provided procedures have been established in a LOA.

1. Issue radar traffic information to aircraft whose targets are likely to merge unless the aircraft are known to be separated vertically.

2. Issue directions using "work [direction]" control techniques to ensure the radar targets of aircraft previously issued as traffic do not touch.

   (a) Work [direction] — an air traffic control instruction whereby the pilot will continue a maneuver to completion then turn toward the specified direction.

   (b) Work [direction] Immediately — an air traffic control instruction whereby the pilot will break off a maneuver and immediately turn toward the specified direction.

   NOTE—Air Education Training Command assumes responsibility for the consequences of application of merging target procedures.

   e. Exemption No. 2861A to 14 CFR Section 91.121, Single Altimeter Setting For Frequent Transit of FL 180. (See FAA Order 7110.65, Air Traffic Control.)
Section 11. Space Shuttle Support Operations

12–11–1. PURPOSE
This chapter prescribes policy, criteria, and administrative and operating procedures pertaining to launch notification, classified launch notification, and emergency procedures in support of future space shuttle transportation system missions.

12–11–2. POLICY
The FAA will support all NASA/DOD space shuttle operations. In addition, local agreements will include NASA priority use of CONTROLLED AIRSPACE at primary and emergency locations.

12–11–3. BACKGROUND
Launch operations will be controlled from the Kennedy Space Center. Flight operations (from liftoff through landing and rollout) will be controlled from the Mission Control Center at the Johnson Space Center, Texas. Landing sites are:

a. Primary: Edwards AFB, California, or Kennedy Space Center.


c. Contingency: Overseas: Kadena, Japan; Rota, Spain; Honolulu, Hawaii.

NOTE− Any civil or DOD installation with a 10,000 foot or longer runway between 57° north and 57° south could be called upon to support an emergency landing.

12–11–4. ROUTINE LAUNCH/RECOVERY NOTIFICATION

a. NASA shall provide to the FAA space shuttle launch and recovery schedules at least 7 calendar days prior to the effective date.

b. NASA shall provide the launch recovery schedule changes to FAA as soon as practical, but not later than 24 hours in advance. Telephone coordination of changes to the schedule is acceptable when necessary.

12–11–5. CLASSIFIED LAUNCH/RECOVERY NOTIFICATION

a. The FAA recognizes that the military has a continuing requirement for periodic launches/recoveries that are classified in nature due to payload and/or mission.

b. Classified notification procedures shall be developed to ensure, to the extent possible, minimal impact on aircraft operations conducted in affected airspace.

12–11–6. FACILITY NOTIFICATION
In the event of an emergency landing within the U.S., the Johnson Space Center Mission Control will relay all required airspace requests to the FAA ATCSCC for coordination with appropriate ARTCC/CERAP facilities. ARTCC/CERAPs are responsible for communications/coordination with effected terminal/AFSS/FSS facilities. Should the emergency landing location be outside the CONUS, but in airspace under U.S. jurisdiction, oceanic ATC facilities shall coordinate with ATC facilities of other governments as appropriate or feasible. If unable to broadcast a prior notification message, the orbiter crew shall attempt to contact the intended airfield on the 243.0 MHz emergency channel approximately 12 minutes prior to touchdown.

12–11–7. FACILITY RESPONSIBILITIES
Upon receiving notification of an emergency landing, ATC facilities shall:

a. Clear all airspace within a 30 NM radius to FL 600.

b. Alert the available fire/crash/rescue equipment to respond using standard fire fighting protective equipment and self−contained breathing apparatus.

c. Ensure appropriate authorities are notified to prevent access by unauthorized personnel within 400 meters of the orbiter due to toxic fuels onboard.
Section 12. Formation Flight

12–12–1. PURPOSE
This section prescribes policy, configurations, and separation standards for military formation flight.

12–12–2. POLICY
The DOD has a continuing requirement, inherent through the nature of its mission, to operate aircraft in formation flight. In the interest of the public and the aviation community, it is imperative that controllers be knowledgeable of the various formation tactics employed by DOD aircraft.

12–12–3. FORMATIONS
A formation is defined as more than one aircraft which, by prior arrangement between the pilots, operate as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control and during join up or breakaway.

a. Standard Formation. A formation in which a proximity of no more than 1 mile laterally or longitudinally and within 100 feet vertically from the flight leader is maintained by each wingman.

b. Nonstandard Formation. A formation operating under any of the following conditions:

1. When the flight leader has requested and air traffic control has approved other than standard formation dimensions.

2. When operating within an authorized ALTRV or under the provisions of a letter of agreement.

3. When the operations are conducted in air-space specifically designed for a special activity.

12–12–4. FORMATION DEPARTURE
A formation departure consists of more than one aircraft at intervals of 1 minute or less which, by prior arrangement between the pilots, operate as a single aircraft with regard to navigation and position reporting. The departure portion of the flight may terminate at a preplanned breakup point which may be located up to, but not beyond, the planned initial level-off at cruise altitude. Formation flight requirements of paragraph 12–12–3 apply.

12–12–6. NONSTANDARD FORMATION TACTICS
Some aircraft, due to the size and maneuverability, normally operate within a nonstandard cell formation. Bomber and tanker aircraft operating in a cell, operate with 1 nautical mile spacing (B–52 uses 2 nautical miles) between cell members intrail and 500 feet vertical separation as illustrated in FIG 12–12–1 and FIG 12–12–2).

NOTE–
Controllers shall not use the flight leader’s Mode C readout for separation purposes. Asking the flight leader to “say altitude” only verifies the lead aircraft altitude.

a. Formation Departure Procedures.


   (a) Take-off interval: Normally, 1 minute between individual cell aircraft. KC–10 interval may be greater than 1 minute when individual aircraft gross weight will vary more than 100,000 pounds. The KC–10 flight leader will establish the interval and notify ATC what interval is being used.

   (b) Intermediate level-off: Block altitude is required for any intermediate level-off altitude assigned by ATC. Wing aircraft “stack down” is with 500 feet vertical separation between each cell aircraft and close to en route longitudinal spacing. Vertical and longitudinal spacing may be greater than normal until level-off at cruise altitude is attained. Controllers shall not use flight leader’s Mode C readout for
2.12−1. Always operated in a nonstandard cell formation.

(a) Take−off interval: One minute between individual aircraft.

(b) Intermediate level−off: Block altitude is required for any intermediate level−off altitude assigned by ATC. Wing aircraft “stack down” with 500 feet vertical separation and close to 1 nautical mile longitudinal spacing. Separation and spacing may be greater until level−off cruise altitudes are attained. Controllers shall not use flight leader’s Mode C readout for separation purposes until verification of formation configuration.

(c) En route formation: Nonstandard with wing aircraft “stacked down” with 500 feet vertical separation and 1 nautical mile longitudinal spacing between aircraft as shown in FIG 12−12−2. The last aircraft maintains the base altitude assigned.

b. En Route Cell Formation Procedures.

1. En route cell formations operate in the non−standard formation configuration indicated in sub−paragraph a and shown in FIG 12−12−1 and FIG 12−12−2 except during aerial refueling. Aerial refueling formation configurations are shown in FIG 12−12−3, FIG 12−12−4, FIG 12−12−5, FIG 12−12−6, FIG 12−12−7, FIG 12−12−8, FIG 12−12−9, FIG 12−12−10, and FIG 12−12−11, Air Refueling Formation.

2. Cell formation leaders are responsible for obtaining ATC approval to conduct formation flight operations in a nonstandard formation configuration.

3. Unless otherwise directed by ATC, all aircraft within a cell formation will squawk the ATC assigned Mode 3A/C beacon code until established within the assigned altitude block and closed to the proper en route cell interval. When cell configuration requires an interval greater than 3 nautical miles between the formation leader and the last aircraft in the cell, both the formation leader and the last aircraft will squawk the assigned Mode 3A/C beacon code.

4. After level−off at cruise altitude, should separation between the cell leader and any other aircraft exceed the ATC authorized dimensions for the nonstandard formation, the aircraft outside the formation limits will no longer be considered a part of the cell. The pilot of such aircraft shall immediately notify the formation leader of the aircraft’s position and request individual control from ATC until the aircraft is reestablished within the formation.

12−12−7. CELL SEPARATION STANDARDS

Separation standards applied to a nonstandard cell formation shall be as indicated in the following:

a. A single altitude/flight level shall not be assigned to a nonstandard cell formation without concurrence of the formation leader.

b. Air traffic control shall meter other air traffic so as to permit assignment of sufficient altitudes to a nonstandard formation flight to allow intra−cell vertical spacing of 500 feet between each aircraft in the formation.

c. En route longitudinal intra−cell spacing for a nonstandard formation is 1 nautical mile (B−52, 2 nautical miles) between individual cell aircraft. Air traffic control shall apply standard separation criteria between the nonstandard formation envelope and other nonformation air traffic.

12−12−8. NONSTANDARD FORMATION NOTIFICATION AND APPROVAL

When military requirements dictate large aircraft conduct nonstandard formation flight, notification and approval shall be accomplished by the following methods:

a. The formation leader shall indicate the number and type aircraft in the appropriate item of the military flight plan. In addition, “nonstandard cell formation” will be listed as the first entry in flight plan remarks.

b. The formation leader shall notify ATC upon initial contact that cell operations are being conducted in a nonstandard formation, and if required, advise ATC of the intra−cell separation and spacing being employed.

c. During the departure phase of flight, the formation leader shall not report level at an ATC assigned altitude or within an altitude block until all formation aircraft have attained the assigned altitude block.
12–12–9. AIR REFUELING FORMATION

Air refueling formations are always nonstandard and require additional airspace over a nonstandard cell formation as shown in FIG 12–12–3, FIG 12–12–4, FIG 12–12–5, FIG 12–12–6, FIG 12–12–7, FIG 12–12–8, FIG 12–12–9, FIG 12–12–10, and FIG 12–12–11.

a. As shown by the illustrations in these figures, air refueling cells normally have a frontal width equal in nautical miles to the number of tanker aircraft contained within the cell. However, when the total number of receiver aircraft exceeds the number of tankers, the frontal width is correspondingly increased by 1 nautical mile for each additional receiver aircraft, but will not exceed 5 nautical miles.

b. Controllers should exercise caution during en route, on course, or buddy refueling operations to insure nonparticipating air traffic is provided sufficient lateral, longitudinal, or vertical separation from the refueling formation envelope to meet standard separation criteria.
FIG 12–12–1

EN ROUTE CELL (STACKED UP)

SIDE VIEW

REAR VIEW
FIG 12-12-2
EN ROUTE CELL (STACKED DOWN)

Base Altitude
NOTE: Reverse order for B-1

SIDE VIEW

FIG 12-12-3

NOTE:
- Use 30 degree right echelon and 1 NM nose-to-nose separation for FB-111 receivers.
FIG 12–12–4
ONE TANKER/THREE RECEIVERS AIR REFUELING VISUAL FORMATION

FIG 12–12–5
TANKER/RECEIVER FORMATION DURING FINAL CLOSURE (ONE TANKER/ONE RECEIVER)
FIG 12–12–6
ONE TANKER/THREE RECEIVERS AIR REFUELLING CELL FORMATION

FIG 12–12–7
RECEIVER FORMATION (SIX RECEIVERS)
FIG 12–12–8
RECEIVER FORMATION (THREE RECEIVERS) AND FORMATION PROCEDURES
(ONE TANKER/THREE OR MORE RECEIVERS)

FIG 12–12–9
FORMATION PROCEDURES (THREE TANKERS/THREE RECEIVERS)
FIG 12–12–10
FORMATION PROCEDURES (THREE TANKERS/SIX RECEIVERS)

FIG 12–12–11
FORMATION PROCEDURES (TWO TANKERS/ONE RECEIVER)
Section 13. Special Air Mission “INFO”

12−13−1. APPLICATIONS

This special air mission provides international and domestic transportation for the Commonwealth of Independence States (CIS) and American delegations in support of Intermediate–Range Nuclear Force (INF) Reduction Treaty verification requirements. This special air mission is named “INFO,” and it uses the call sign “INFO” in providing special handling for aircraft engaged in INF treaty missions.

12−13−2. OPERATIONS

The CIS delegations will arrive in CONUS at predetermined points−of−entry and will be flying IL−62, TU−134 or TU−154 SS aircraft. Further domestic transportation to designated inspection sites will be provided by Air Mobility Command (AMC) aircraft. Helicopter support flights may be required at some locations. Operations in this category are as follows:

a. International CIS Flights: In addition to complying with procedures contained in FAA Order 7110.65, Air Traffic Control, for the handling of special interest flights, provide special handling to CIS aircraft using the call sign “INFO.”

b. Domestic USAF Support Flights: Provide special handling to AMC aircraft, both on the ground and airborne, using the call sign “INFO.”
Chapter 13. Military Radar Unit Duties, Responsibilities, and Procedures

Section 1. General

13–1–1. MILITARY RADAR UNIT (MRU)/AIRBORNE RADAR UNIT (ARU)

MRU/ARUs are not commissioned ATC facilities. Therefore, they shall not be authorized nor requested to provide air traffic control service. Military command and control functions, including traffic advisories, will be provided to participating military aircraft operating within airspace which has been released to the unit by the appropriate ATC facility.

13–1–2. AIRBORNE RADAR UNIT (ARU)

An ARU may be used as a radar monitoring facility or as an extension of an MRU in planned exercises or daily training under the following conditions:

a. The MRU assumes the responsibility to ensure that the operation is contained within the assigned area as specified in paragraph 13–1–7a.

b. The ARU will assist aircraft under its jurisdiction to remain within the airspace released to the unit by ATC through the MRU.

c. The use of an ARU and the associated airspace must be fully coordinated between the parent MRU and the affected ATC facilities.

13–1–3. TRANSFER OF RESPONSIBILITY

The MRU/ARUs will not be involved in the transfer of control of aircraft to/from an ATC facility. Transfer of flight information shall be accomplished directly between the MRU/ARU and the appropriate ATC facility as specified in a letter of agreement.

a. Flight information shall be passed prior to the aircraft entering and/or leaving the ATCAA/SUA.

b. Communications/monitoring responsibility by MRU: In the event flight information from the MRU to the ATC facility cannot be effected, the MRU will assist the flight in remaining within the assigned area. The MRU shall retain communications with and radar-monitor the aircraft until further clearance is received from ATC.

NOTE—In the event communication cannot be established, the MRU will instruct the flight to contact the ATC facility and request instructions.

13–1–4. AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)

An AWACS may be used as an MRU in planned exercises or daily training under the following conditions:

a. The AWACS is responsible to ensure that the operation is contained within the airspace area as specified in paragraph 13–1–7, Release of Airspace, and paragraph 13–1–10, Additional AWACS Responsibilities.

b. The use of the AWACS and the associated airspace is fully coordinated with affected air traffic control facilities.

c. When the AWACS cannot establish direct two-way communication with ATC for transfer of flight information, a ground-based MRU/ADCF may be designated to facilitate coordination. Ground-based MRU/ADCFs must be identified in letters of procedure/agreement with affected ATC facilities before being used in this capacity.

13–1–5. FAA RESPONSIBILITY

Where control of military activities is delegated to MRUs, qualified FAA personnel shall provide technical assistance, as required/requested, to familiarize military personnel with applicable ATC procedures and related responsibilities. In NORAD Regions/Sectors where there is an ADLO assigned, or for AWACS, the AWACS ADLO, if assigned, or the ACCLO shall be responsible for this function. At other locations, the FAA regional office shall designate the office or facility responsible for this function. Where ATC service cannot be provided within currently available resources, FAA regions/facilities should initiate appropriate programming action to support the training/RDT&E activity.
13–1–6. ATC FACILITIES RESPONSIBILITY

ATC facilities providing radar advisory service to VFR aircraft shall alert them of the MOA/ATCAA. If the pilot indicates that the aircraft will penetrate the areas, ATC shall advise the military radar facility of the VFR penetration and transfer flight information on the aircraft to the military facility.

13–1–7. RELEASE OF AIRSPACE

Airspace may be released to an MRU in accordance with a letter of agreement to accommodate training/RDT&E activity requiring military radar control provided:

a. The MRU shall keep aircraft:
   1. One and one-half miles from the boundary of the airspace when aircraft are less than 40 miles from the radar antenna.
   2. Two and one-half miles from the boundary of the airspace when aircraft are more than 40 miles from the radar antenna.

b. The military command assumes responsibility for separation of participating aircraft within the area.

c. MRUs will assist participating aircraft in avoiding all observed nonparticipating traffic through the issuance of radar traffic information.

d. The MRU shall confirm the assigned altitude block within special use airspace with participating aircraft upon initial contact/airspace entry to ensure each is familiar with the vertical airspace limits.

13–1–8. DELEGATION OF CONTROL AUTHORITY

MRUs may be authorized to provide military command and control service within ATCAA/SUA to military aircraft participating in daily training/RDT&E activities or planned exercises when the following conditions are met:

a. The staffing and personnel qualifications of the MRU meets acceptable standards as determined jointly by the FAA and military.

b. The radar presentation and equipment performance of the unit is adequate for the service being provided.

c. MRUs have adequate video mapping, map overlays, or computer generated displays on radar scopes to show lateral limits of the area, common reference points, and other pertinent data as determined locally by the military/FAA facility involved.

d. Land line communications are provided by the military between the MRU and each ATC facility sharing a common boundary with the area in which training/RDT&E activity is being conducted. For AWACS MRU operations, adequate communications shall be established between the AWACS mission crew and the ATC facility operating positions affected to support the mission activity to be conducted. AWACS mission requirements shall not exceed the ARTCC/CERAP(s) communication capability.

13–1–9. MILITARY RESPONSIBILITY

The appropriate military command shall be responsible for ensuring that equipment performance and staffing of the MRU are adequate for proper execution of the letter of agreement. The MRU shall be responsible for:

a. Retaining aircraft under its jurisdiction within the limits of altitudes and within the boundary of airspace released to the unit by ATC as specified in paragraph 13–1–7, Release of Airspace.

b. Providing radar traffic advisory service to participating military aircraft.

c. Separation of participating military aircraft while operating in the ATCAA/SUA.

13–1–10. ADDITIONAL AWACS RESPONSIBILITIES

In addition to the responsibilities specified in paragraph 13–1–9, Military Responsibility, the following responsibilities/requirements/limitations apply to the AWACS aircraft for MRU operations.
a. AWACS orbit areas must be established and oriented to ensure continuous communications capability both with the appropriate ATC facilities and the aircraft under AWACS jurisdiction in designated airspace.

b. The AWACS shall not provide services below FL 180 within U.S. airspace or in offshore airspace in which domestic ATC service is exercised unless, the AWACS’s primary and secondary (IFF) radars are operational.

c. All missions in which the AWACS will function as an MRU must be fully coordinated by the 552nd Air Control Wing with the appropriate ATC facility(s) at least 4 days prior to mission execution using a mutually agreed upon checklist of the necessary data to be coordinated.

d. Radar correlation shall be accomplished by AWACS crew prior to providing services in airspace released to AWACS. The following procedures apply:

1. AWACS radar will conduct a internal system cross correlation check. If internal system cross checks cannot be validated, the AWACS will be treated as an ARU or the mission terminated until validation can be completed.

2. The AWACS mission crew shall notify the appropriate ARTCC/CERAP or control facility of the internal system correlation check accuracy.

3. In the event AWACS primary/secondary radar, computer, or Navigation Computer System (NCS) is inoperable due to a malfunction, another internal correlation check will be accomplished prior to resumption as an MRU.

4. In the event the AWACS radar system is inoperable for any reason, another correlation check shall be required prior to resumption as a MRU.

e. Scrambles shall not be initiated by the AWACS for active air defense missions. This does not preclude the coordination of scrambles through the NORAD Region/Sector or the testing of mutually developed procedures for AWACS issued scramble orders.

f. AMIS information will not be provided to the AWACS mission crew by the ARTCC/CERAP.

13–1–11. SEPARATION BETWEEN PARTICIPATING AND NONPARTICIPATING AIRCRAFT

ATC facilities shall provide separation between nonparticipating IFR aircraft cleared to transit an ATCAA/SUA. Such separation shall be accomplished by coordination with the MRU at least 5 minutes prior to the ATCAA/SUA boundary penetration to obtain from the MRU a release to ATC of altitude(s) and/or flight level(s) throughout the entire ATCAA/SUA. A transfer of flight information of nonparticipating aircraft will be effected with the MRU by ATC.

NOTE–
ATC retains the authority to take back the airspace as specified in a letter of agreement.
Section 2. Intercept Training Activities

13–2–1. AREA OF OPERATION

Intercept training activities shall be conducted under the following conditions:

a. Within Restricted Areas, Warning Areas, Military Operations Areas, and at FL 180 and above in ATCAAs within the United States and its territorial waters.

b. Participating aircraft shall display transponder codes as assigned by ATC at all times unless otherwise coordinated.

c. Transponder–off operations shall not be conducted except as authorized in an FAA headquarters approved exemption to 14 CFR Section 91.215.

13–2–2. RADAR SURVEILLANCE

a. Intercept training activities shall be conducted under the surveillance of an MRU including AWACS aircraft to the extent such coverage or capability is available.

b. When MRU capability does not exist, ATC radar facilities should provide radar surveillance when staffing and work load permits. The details of radar coverage areas and the services to be provided will be included in a letter of agreement between the appropriate ATC facilities and military operational units.
Section 3. FAA/Military Joint Evaluations

13–3–1. PURPOSE
To provide for joint FAA/military evaluations of military radar units every two years unless otherwise required.

13–3–2. SCOPE OF EVALUATION
The FAA/military shall ensure that the following actions are taken:

a. Furnish names and security clearances of participating personnel.

b. Brief MRU staffs on the scope and intent of the evaluation.

c. Ensure that adequate activity is scheduled at the facility to achieve evaluation objectives.

13–3–3. ADVANCE COORDINATION
Arrangements for proposed evaluations shall normally be coordinated 30 days in advance. However, evaluation of specific problem areas may be conducted on short notice as mutually agreed.

13–3–4. OBJECTIVES
Evaluation objectives are as follows:

a. Evaluate the adequacy of authorized services.

b. Evaluate the application of established procedures.

c. Evaluate the currency of operational procedures and agreements.

d. Detect and report for corrective action any weakness in applicable training programs.

13–3–5. BASIC EVALUATION TEAM
The team shall consist of at least one FAA air traffic control representative and at least one military representative.

13–3–6. “TRUSTED AGENTS”
Military and FAA personnel conducting evaluations during exercises shall be designated “trusted agents.” Evaluations shall be conducted in a manner that will not interfere with the mission of the military radar unit involved.

13–3–7. OUT–BRIEFING
An out–briefing shall be conducted at the conclusion of the evaluation, and evaluators will brief on their respective portion of the evaluation. The out–briefing should be attended by the appropriate supervisory personnel of the military radar unit concerned.

13–3–8. PREPARE JOINT REPORT
Evaluation reports shall be handled as follows:

a. A joint report shall be prepared at the conclusion of the evaluation. The report shall contain factual comments pertinent to items in paragraph 13–3–4, Objectives.

b. The report shall not be considered complete, nor shall it be distributed, until signed by appropriate military and FAA representatives of the evaluation team.

c. Items that require follow–up action shall be specified.

d. Follow–up actions shall be initiated within 20 working days from the date of the report.

e. FAA regions and the military services shall be responsible for distribution of reports within their respective agencies.

f. Separate minority reports may be filed if either FAA or military representatives disagree with the consolidated report.
Chapter 14. Military Operations (MILOPS) Network

Section 1. Military Operations (MILOPS)

14−1−1. PURPOSE

This chapter prescribes policy, responsibilities and operating procedures pertaining to Special Use Airspace (SUA) for military operations/training activities during planned exercises and daily training mission/research, development, test and evaluations.

14−1−2. POLICY

a. To more effectively manage SUA in the National Airspace System (NAS) and to ensure its efficient and appropriate use, a coordinated effort between the Federal Aviation Administration (FAA) and the Department of Defense (DOD) has developed procedures and established automation requirements for increasing flexibility in the allocation and use of SUA by civilian and military users. This policy applies to FAA employees and contractors accessing the Military Operations (MILOPS) Network.

b. To comply with legislative guidance, the MILOPS network was developed on an “open system” architecture and is capable of interfacing with other systems such as the Military Airspace Management System (MAMS) and the United States Notice to Airman System (USNS). MILOPS network resources shall be used within prescribed mandates, laws, and restrictions to improve information dissemination and to support real-time management of SUA.

14−1−3. SPECIAL USE AIRSPACE MANAGEMENT SYSTEM (SAMS)

Special Use Airspace Management System (SAMS) is a subsystem of the MILOPS network that will display and record SUA and other types of airspace area transactions that are tracked in the NAS. Airspace transactions are normally considered to be actions taken to activate, pause, or terminate an SUA and other areas tracked. The transactions tracked are associated with:

a. SUA.

b. Other areas tracked.

1. Restricted Areas.
2. Prohibited Areas.
4. Alert Areas.
5. Warning Areas.

14−1−4. RESPONSIBILITIES AND PROCEDURES

The Manager, Special Operations Division, ATP−200, shall administer the SAMS program by:

a. Maintaining the SAMS operational database.

b. Maintaining electronic system security.

c. Operating a help desk for MILOPS during headquarters administrative hours at (703) 326−3755.

d. Maintaining the archive database.

e. Preparing and distributing analysis of SAMS data to other offices as required.

f. Analyzing, in conjunction with the Airspace and Rules Division, ATA−400, SUA data in accordance with Order 7400.2, Procedures for Handling Airspace Matters.

g. Reviewing SUA and other airspace tracked summary reports prepared by regional offices.

h. Initiate SAMS enhancements, such as:
1. Requiring interface with other programs when identified as beneficial to SAMS or the NAS. These enhancements may include, but not be limited to, MAMS and USNS.

2. Providing periodic updates and upgrades of the software and hardware to all field sites and regional offices.

3. Developing procedures for the real-time management of the NAS.

14–1–5. REGIONAL AIR TRAFFIC DIVISION MANAGER RESPONSIBILITIES

a. Designate and update, for ATP–200, a MILOOPS point of contact in the regional Operations Branch.

b. Identify non–MILOPS equipped controlling agency facilities within their area of jurisdiction. These facilities shall forward data in accordance with subparagraphs c1 through c3 below.

c. Direct each MILOOPS facility within the region to accomplish the following required SAMS functions:

1. Input SUA/other airspace tracked schedule data which will include, as a minimum:
   (a) Airspace type.
   (b) Airspace name.
   (c) Start/Date/Time Group.
   (d) End/Date/Time Group.
   (e) Minimum altitude.
   (f) Maximum altitude.
   (g) Amendments prior to scheduled airspace becoming active.

2. Input SUA/other airspace tracked activation data which will include, as a minimum:
   (a) Airspace type.
   (b) Airspace name.
   (c) Start/Date/Time Group.
   (d) End/Date/Time Group.
   (e) Minimum altitude.
   (f) Maximum altitude.
   (g) Amendments after scheduled airspace transitions to active status.

3. Input SUA/other airspace tracked utilization data which will include, as a minimum:
   (a) Airspace type.
   (b) Airspace name.
   (c) Start/Date/Time Group.
   (d) End/Date/Time Group.
   (e) Minimum altitude.
   (f) Maximum altitude.
   (g) Amendments after scheduled airspace transitions to historical status.

d. Analyze annual utilization reports, using SAMS data, submitted by using agencies.

e. Provide the reporting sites with review and analysis of the SAMS data upon request.

f. Not alter the MILOOPS network or workstation without approval from ATP–200.

14–1–6. MILOOPS SITE FACILITY MANAGER RESPONSIBILITIES

a. Appoint and train authorized operators on the use of MILOOPS.

b. Locate the MILOOPS workstation at the operational position that handles SUA/other areas tracked scheduling and coordination.

c. Appoint a MILOOPS facility focal.

d. Enter all SUA/other airspace tracked schedule activities as designated by the Regional Air Traffic Division Manager.

e. Report outages to the MILOOPS help desk, by the most rapid means possible within 1 business day.

f. During periods of equipment outages, maintain a log of SUA/other areas tracked schedule/activation/utilization data. Enter this data into SAMS as soon as MILOOPS returns to service to maintain the historical value of the data.

g. Make certain the MILOOPS network or workstation is not altered without approval from ATP–200.

h. Require that personnel are proficient in the use of MILOOPS and that sufficient personnel are trained in order to maintain a perpetually trained staff.
i. Prohibit unauthorized access to MILOPS.

14–1–7. FACILITY MILOPS FOCAL RESPONSIBILITIES

a. Ensure the MILOPS program is utilized in accordance with this directive.

b. Forward operator information, which includes name, operating initials, and system password, via MILOPS to ATP–200.

c. Forward facility unique airspace definitions to MILOPS help desk; i.e., ATCAA legal definition(s).

14–1–8. SAMS OPERATOR RESPONSIBILITIES

a. Enter data as required in subparagraph 14–1–5c.

b. Enter in the “remarks” field any pertinent information; i.e., weather factors or equipment problems.
Appendix 1.

THE WHITE HOUSE—EXECUTIVE ORDER 11161 AS AMENDED BY EXECUTIVE ORDER 11382 RELATING TO CERTAIN RELATIONSHIPS BETWEEN THE DEPARTMENT OF DEFENSE AND THE FEDERAL AVIATION ADMINISTRATION

WHEREAS Section 302(e) of the Federal Aviation Act of 1958 provides, in part, that in the event of war the President by Executive order may transfer to the Department of Defense any functions (including powers, duties, activities, facilities, and parts of functions) of the Federal Aviation Administration; and

WHEREAS it appears that the defense of the United States would require the transfer of the Federal Aviation Administration to the Department of Defense in the event of war; and

WHEREAS if any such transfer were to be made it would be essential to the defense of the United States that the transition be accomplished promptly and with maximum ease and effectiveness; and

WHEREAS these objectives require that the relationships that would obtain in the event of such a transfer as between the Federal Aviation Administration and the Department of Defense be understood in advance by the two agencies concerned and be developed in necessary detail by them in advance of transfer;

NOW, THEREFORE, by virtue of the authority vested in me by Section 302(e) (72 Stat. 746; 49 U.S.C. 1343 (c)), and as President of the United States and Commander in Chief of the Armed Forces of the United States, it is hereby ordered as follows:

Section 1. The Secretary of Defense and the Secretary of Transportation are hereby directed to prepare and develop plans, procedures, policies, programs, and courses of action in anticipation of the probable transfer of the Federal Aviation Administration to the Department of Defense in the event of war. Those plans, policies, procedures, programs, and courses of action shall be prepared and developed in conformity with the following described standards and conditions—

(A) The Federal Aviation Administration will function as an adjunct of the Department of Defense with the Federal Aviation Administration being responsible directly to the Secretary of Defense and subject to his authority, direction, and control to the extent deemed by the Secretary to be necessary for the discharge of his responsibilities as Secretary of Defense.

(B) To the extent deemed by the Secretary of Defense to be necessary for the accomplishment of the military mission, he will be empowered to direct the Administrator to place operational elements of the Federal Aviation Administration under the direct operational control of appropriate military commanders.

(C) While functioning as an adjunct of the Department of Defense, the Federal Aviation Administration will remain organizationally intact and the Administrator thereof will retain responsibility for administration of his statutory functions, subject to the authority, direction, and control of the Secretary of Defense to the extent deemed by the Secretary to be necessary for the discharge of his responsibilities as Secretary of Defense.

Section 2. In furtherance of the objectives of the foregoing provisions of this order, the Secretary of Defense and the Secretary of Transportation shall, to the extent permitted by law, make such arrangements and take such actions as they deem necessary to assure—

(A) That the functions of the Federal Aviation Administration are performed during any period of national emergency short of war in a manner that will assure that essential national defense requirements will be satisfied during any such period of national emergency.

(B) Consistent with the provisions of paragraph (A), (B), and (C) of Section 1 of this order, that any transfer of the Federal Aviation Administration to the Department of Defense, in the event of war, will be accomplished smoothly and rapidly and effective operation of the agencies and functions affected by the transfer will be achieved after the transfer.

LYNDON B. JOHNSON
THE WHITE HOUSE
July 7, 1964
MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF DEFENSE AND THE FEDERAL AVIATION AGENCY IMPLEMENTING E.O. 11161

The Department of Defense and the Federal Aviation Agency pursuant to the requirements of Executive Order 11161 of July 7, 1964, Relating to Current Relationships Between the Department of Defense and the Federal Aviation Agency, agree, as hereinafter set forth:

a. On the relationship which shall obtain between the Department and the Agency if, in the event of war, the Agency is transferred to the Department;

b. On plans to assure that the functions of the FAA are performed during any period of national emergency short of war in a manner that will assure that essential national defense requirements will be satisfied; and

c. On the premises and procedures which shall be utilized in the development of plans essential to provide for an orderly, smooth, and effective transition of FAA to a wartime posture.

ARTICLE I. DEFINITIONS

As used in this Memorandum, the following terms shall mean:

"war" - A Presidential determination that armed hostilities exist or a declaration of war by the Congress.

"national emergency short of war" - Any condition:

a. As determined by the President or the Congress that threatens national security;

b. Declared or confirmed by the Secretary of Defense or his designated representative as an "AIR DEFENSE EMERGENCY" or "DEFENSE EMERGENCY;" or

c. In which armed hostilities are considered imminent by the Secretary of Defense or his designated representative.

"adjunct" - Joined or added to the Department of Defense but not essentially a part of it.

"operational control" - Those functions of command (military) involving the assignment of tasks, the designation of objectives and the authoritative direction necessary to accomplish the mission. Operational control should be exercised by the use of the assigned normal organizational units (FAA operational elements) through their responsible commanders (Head, FAA Operational Element), by the commander (military) exercising operational control or by the commanders of subordinate forces. It does not include such matters as administration, discipline, internal organization, and training.

"FAA operational element" - A facility or service of the FAA that directly or indirectly performs an operational function in the support of military objectives. It includes but is not limited to: Air Route Traffic Control Centers, Flight Service Stations, Terminal Facilities, Central Altitude Reservation Function, and National Flight Data Center.

ARTICLE II. WARTIME RELATIONSHIPS

1. In the event of and upon being so ordered by the President, the Agency will function as an adjunct of the Department of Defense.

a. The Agency shall remain organizationally intact. The Administrator shall retain responsibilities for administration of his statutory functions subject to the authority, direction, and control of the Secretary of Defense, to the extent deemed by the Secretary of Defense to be necessary for the discharge of his responsibilities as Secretary of Defense.

b. To the extent deemed by the Secretary to be necessary for the accomplishment of the military mission by the appropriate military commanders, the Secretary may direct the Administrator to place FAA operational elements under the direct operational control of such military commanders.

2. In the implementation of paragraph 1 above, the Administrator will be responsible to the Secretary of Defense for:

a. Continuing Agency functions subject to such direction as deemed essential by the Secretary.

b. Recommending proper employment of FAA resources in a national defense role.

c. Providing information on the status of FAA operational elements.

d. Assigning to the operational control of the appropriate military commanders such personnel and facilities of the Agency as may be designated by the Secretary.

e. Performing such tasks as may be assigned, which may include but shall not be limited to:

(1) Providing air traffic control services in accordance with national defense requirements.

(2) Providing air movement information and services necessary to effect identification of air traffic.
(3) Providing air surveillance information and services as necessary, to support the military air surveillance network.

(4) Providing specialized radar control to military aircraft as required in performance of tactical missions.

(5) Collecting and reporting information in the following areas:

(a) Surviving civil air facilities capable of recovering and/or supporting military aircraft.

(b) Nuclear detonations and damage information, including radiological contamination.

(6) Making available any existing alternate means of communication.

(7) Flight information programs and services pertaining thereto.

(8) Civil defense support, including assistance in arranging for aerial surveillance and monitoring.

(9) Providing logistical, maintenance, engineering and procurement support as needed.

3. When so ordered by the President, the Agency will resume the status as provided in the Federal Aviation Act of 1958, as amended.

ARTICLE III. EMERGENCIES SHORT OF WAR

1. In national emergencies short of war, the FAA will respond within its statutory responsibilities and resources to military requirements in a manner which will assure that essential national defense requirements are satisfied.

Jointly prepared contingency plans or agreements will be developed and will identify the need for FAA responsiveness in the following typical functional areas:

a. Providing information on the status of FAA operational elements.

b. Providing air traffic control services in accordance with national defense requirements.

c. Providing air movement information and services necessary to effect identification of air traffic.

d. Providing air surveillance information and services as necessary, to support the military air surveillance network.

e. Providing specialized radar control to military aircraft as required in performance of tactical missions.

f. Making available any existing alternate means of communications.

g. Establishing special rules or regulations or waiving existing rules or regulations to meet essential national defense requirements.

h. Providing logistical, maintenance, engineering, and procurement services.

2. The provisions of paragraph 1 of this Article are not intended to derogate from or diminish the functions or responsibilities of the FAA in support of national defense requirements in situations other than national emergencies short of war. Planning for such situations will continue.

ARTICLE IV. PLANNING PREMISES

1. Primary DOD requirements as they relate to FAA capabilities are in the areas of surveillance and control of the navigable airspace.

2. DOD and FAA, for planning purposes, shall assume that the relationships set forth in Articles II and III will obtain and will direct the preparation of contingency plans by appropriate counterpart elements of the two organizations covering each situation; i.e.:

a. If in the event of war the FAA is made an adjunct of the DOD (Article II), and

b. In a national emergency short of war (Article III).

3. The success of military air operations during war will be influenced by control of the volume and operation of all aircraft, and in such a situation, national defense requirements must take precedence. Accordingly, operational control of the navigable airspace in the event FAA becomes an adjunct of the DOD, will be exercised through the command chain running from the Secretary of Defense through the Joint Chiefs of Staff, the Commanders of the Unified and Specified Commands, to designated commanders of subordinate forces. During an emergency short of war, operational control of FAA elements will be exercised through established FAA organizational channels.

4. To the extent consistent with the peacetime responsibilities and resources of FAA, systems configuration should be compatible with wartime requirements. Although the lines of authority may be modified with the transition to war, the operational systems configuration, including manning, equipment, communications and procedures, should be functionally and organizationally capable of assuming the wartime role or responding in a national emergency short of war.

5. The Air Defense and Air Traffic Control facilities will continue to be integrated when operational and economic advantages are evident. When combat capability for weapons commitment and control is planned, military manning will be provided for this function.
6. In event of degradation of FAA capabilities during wartime, augmentation and/or assistance to FAA facilities and personnel will be accomplished as required to fulfill the military mission through use of military resources assigned by the military commander exercising operational control.

7. There will be a continuing DOD need for trained military personnel and military air traffic control equipment for special military operations, particularly in overseas areas, whether FAA becomes an adjunct of the DOD or remains an autonomous agency. Pertinent military directives will identify the tasks requiring the use of military personnel and the use of civilian personnel. The status, obligations and privileges of FAA and DOD civilian personnel, in similar circumstances, will be the same.

8. The DOD and FAA will provide information to each other to assist in the determination of their requirements to effect the postures contemplated under this Memorandum of Understanding.

9. Any relationships as set forth in E.O. 11161 and in this Memorandum of Understanding must recognize the relationship and obligation that necessarily exists between FAA and other governmental agencies such as the Office of Emergency Planning, Department of Commerce, etc. Specifically, Executive Orders, such as 11003 which require the utilization of FAA functions, services, and capabilities in conjunction with other governmental and nongovernmental organizations, must be recognized and considered in the development of DOD/FAA plans for wartime roles, missions, and relationships.

**ARTICLE V. PLANNING PROGRAM**

Upon execution of this Memorandum of Understanding, implementing directives will be coordinated and exchanged between the signatories and thereafter will be issued by each to their respective echelons of organization that will cause the required plans to be formulated. Differences which may arise and remain unresolved at the field planning level, will be resolved through appropriate channels of the signatories to this Memorandum of Understanding.

**APPROVED:**

(s) Cyrus Vance  
CYRUS VANCE  
DEPUTY SECRETARY OF DEFENSE  
DATE: March 7, 1966

(s) William F. McKee  
WILLIAM F. MCKEE  
ADMINISTRATOR  
FEDERAL AVIATION AGENCY  
DATE: April 13, 1966
Appendix 2.


WHEREAS, by virtue of Section 307(b)(4) of the Federal Aviation Act of 1958 (49 U.S.C. 1348 (b)(4)), the Administrator of the Federal Aviation Administration (hereinafter referred to as the FAA) is authorized to provide necessary facilities and personnel for the regulation and protection of air traffic.

WHEREAS, by virtue of Section 303(d) of the Federal Aviation Act of 1958 (49 U.S.C. 1344 (d)), the Administrator of the FAA may make such provision as he shall deem appropriate authorizing, with its consent, the performance of any function under Section 307 (b) of the Act by any other Federal department; and

WHEREAS, there are three separate agreements now in effect between the FAA and the Army, Navy, and Air Force, respectively, relating to the operation of air traffic control facilities on military installations; and

WHEREAS, all parties to the three existing agreements wish to supersede such agreements with this separate agreement between the FAA and the three military services;

NOW, THEREFORE, all parties to this agreement mutually agree as follows:

Article I. Determination of Operational Responsibility

A. In keeping with requirements of national defense and with due regard for budgetary, manpower and all other pertinent considerations, the general allocation of responsibility for the operation of each military facility subject to this agreement shall be mutually determined at the national level between the FAA and the appropriate military service. To facilitate the determination of operational responsibility, recommendations concerning the operation of air traffic control facilities will be made at the local level by appropriate FAA and military personnel.

B. Unless agreement is reached to the contrary, the military services shall provide airport traffic control service (visual flight rules) at those military airports where the cognizant military authority deems that such service is required and said airports are not served by an FAA, State, municipal, or other non-Federal tower.

C. When it is mutually agreed to be more advantageous to establish independent military and FAA approach control facilities, the approach control authority for the military terminal area ordinarily will be delegated to the military. Prior to approval by FAA of this delegation of authority, the military facility must be equipped to transmit and receive on all frequencies necessary to control all categories of IPR traffic normally operating in the area. Additionally, a Letter of Agreement relating to the control of air traffic shall be consummated between the appropriate local military authority and the appropriate FAA air route traffic control center.

D. The FAA is authorized to assign an Air Traffic Representative (ATREP) to each military approach control facility covered in Article 1., Section C. The function of the ATREP is set out in detail in Article IV.

E. At all military locations not served by an ATREP, authorized FAA personnel may make evaluations of military approach control facilities and those military towers and military ARS/PAR units that exchange control of air traffic directly with FAA facilities. These evaluations are to be conducted at such times as are mutually agreeable to the FAA and the cognizant local military authority. The purpose of such evaluations is to determine whether equipment performance and staffing are adequate for the service being provided; whether personnel qualifications, Certification and performance meet acceptable standards; and whether procedures utilized are consistent with the agreements provided for in Article I.C and Article V. All deficiencies which may affect flight safety shall be reported to cognizant military authority for timely corrective action.

F. Delegation of approach control authority may be temporarily suspended by a representative of the FAA area manager or the ATREP if such action is deemed necessary in the interest of flight safety. The commanding officer (or his designated representative) of the affected military installation shall be notified prior to the time suspension action is taken and informed of the reasons therefore.

G. Withdrawal of any delegation of authority covered by this agreement shall not be authorized prior to approval of FAA and the appropriate military service at the national level.
Article II. FAA Operations on Military Installations

A. Where mutually agreed, the FAA will provide exclusive air traffic control services and staffing on military installations. Unless agreed to the contrary, where a military facility is located near an FAA approach control facility, the FAA will perform the approach control function from the FAA facility for both the military and non-military facilities.

B. At jointly-staffed air traffic control facilities located on military installations, unless agreed to the contrary, the FAA will staff the approach control (surveillance radar) function and the military service will staff and be responsible for the precision approach radar (PAR) function.

C. The FAA shall have full authority and responsibility for the operation of its authorized functions.

D. The basic radar system approved for use in the radar approach control function is of the airport surveillance radar (ASR) type. Proposals for use of radar systems other than the ASR shall be submitted to the Washington Office of the FAA for review. This clause shall not affect those terminal facilities currently utilizing other radar systems, nor is it intended to limit the use of ARSR or other slower RPM systems to supplement ASR equipment.

Article III. Cross-Training at Jointly-Staffed ATC Facilities

In the best interest of the FAA and military services, it is essential that organized cross-training be accomplished; accordingly cross-training programs shall be implemented and training shall be conducted to the maximum extent possible.

A. At the request of the responsible local military authority, the FAA will provide on-site approach control training to designated military personnel. Qualification and training shall be carried out in accordance with FAA regulations and procedures. Military personnel who successfully complete the training program and receive appropriate FAA certificates and ratings are not required to maintain currency on approach control positions. However, qualified military controllers, where current by FAA and military supervisors, may be assigned to approach control positions without direct supervision.

B. At the request of the FAA facility Air Traffic Manager the appropriate military authority will provide on-site precision approach radar (PAR) training to designated FAA personnel. Qualification and training shall be carried out in accordance with military regulations and procedures. FAA personnel are not required to maintain currency on PAR positions. However, qualified FAA controllers, when current by military standards and when agreeable to both military and FAA supervisors, may be assigned to PAR control positions without direct supervision.

Article IV. FAA Air Traffic Representatives

A. The ATREP is responsible to the Area Air Traffic Branch. His function is described as follows:

1. To serve as liaison officer between the military and the FAA and between the military and civil users; to resolve local air traffic problems between military and civil users of the terminal area in order that both are afforded the maximum service possible; and, to conduct frequent liaison with FAA, civil and military personnel to determine the adequacy of ATC service being rendered.

2. To serve as technical advisor to the military in all phases of air traffic control in order to improve ATC service.

3. To evaluate the amount of airspace required for air traffic control in terminal areas, and to coordinate approval of airport traffic patterns.

4. To continuously review existing air traffic control and communications procedures and practices, and to recommend action for their revision to improve efficiency.

5. To participate in appropriate intra-military meetings in which the FAA has an interest.

6. To encourage lecture and training programs for base pilots and civil air user groups, and to recommend changes, if necessary, to improve the air traffic control facility training program and to obtain maximum utilization of personnel.

7. To administer Control Tower Operator Exams and issue appropriate FAA certificates and ratings.

8. To participate frequently in flights of various types of unit-equipped military aircraft (in which flight as a passenger or crew member is permitted) for the purpose of evaluating, from the pilot's viewpoint, air traffic control services being rendered and the performance characteristics of aircraft employed at the base.

B. The ATREP will be an FAA signatory to agreements made pursuant to Article I., Section C.

Article V. Local Agreements at FAA-Staffed Military Installations

At military installations where FAA staffing is provided in whole or in part, a local memorandum of agreement shall be signed between FAA and appropriate military authority. The purpose of the local agreement is to further implement this agreement. Such agreements should cover details such as oper-
Article VI. Financing

A. Salary, travel and training expenses of FAA Air Traffic Representatives, Air Traffic Controllers, and other personnel furnished by the FAA, pursuant to this Agreement, will be borne by the FAA.

B. Salary, travel and training expenses of military and civilian personnel furnished by the DOD, pursuant to this Agreement, will be borne by the appropriate DOD component.

C. The cost of providing normal support (utilities, office space furniture, parking space, janitorial services and supplies, etc.) to FAA personnel at jointly-staffed air traffic control facilities located on military installations, pursuant to this Agreement, will be borne by the host DOD component authority exercising jurisdiction over the military installation involved.

D. Except as otherwise specifically agreed between the parties concerned, the cost of procuring new equipment and joint facilities to accommodate primarily a military requirement, pursuant to this Agreement, will be borne by the host component of the DOD.

E. The cost of procuring new facilities and equipment to accommodate primarily an FAA requirement, pursuant to this Agreement, will be borne by the FAA.

F. Except as otherwise specifically agreed between the parties concerned, the cost of installing and maintaining equipment will be borne by the party to this Agreement which has the responsibility for the air traffic control function being performed.

G. Agreements which include financing arrangements, other than the three separate agreements referred to in the preamble to this agreement, are not superseded by this article.

Article VII. Miscellaneous Provisions

A. Local military authority will determine the security clearances required of FAA personnel. FAA personnel will be subject to military security requirements and base regulations.

B. The military services shall inform the FAA at the earliest practicable date of plans to deactivate military bases at which FAA personnel are assigned. The FAA shall inform the appropriate military service at the earliest practicable date of plans to reduce services at or to abandon ATC facilities on military installations.

C. Differences which may arise and remain unresolved at the local level will be resolved through appropriate channels of the signatories to this Memorandum of Agreement.

The FAA and the three military services agree to be bound by all provisions of this agreement as indicated by the signature of their duly authorized officials.

UNITED STATES ARMY
By(s) A.S. Collins, Jr.
Title Asst. Chief of Staff for Force Development
Date 10 June 1969

UNITED STATES NAVY
By(s) Thomas F. Connolly
Title Deputy Chief of Naval Operations (Air)
Date 2 June 1969

UNITED STATES AIR FORCE
By(s) John W. Vogt, Maj. Gen. USAF
Asst. Deputy Chief of Staff Plans and Operations
Date 26 June 1969

DEPARTMENT OF TRANSPORTATION, FEDERAL AVIATION ADMINISTRATION
By(s) D.D. Thomas
Title Deputy Administrator
Date 17 July 1969
Appendix 3.

MEMORANDUM OF UNDERSTANDING
BETWEEN
AIR EDUCATION AND TRAINING COMMAND
AND
FEDERAL AVIATION ADMINISTRATION
CONCERNING INTERAGENCY LIAISON

1. PURPOSE

This memorandum of understanding establishes procedures and responsibilities of an interagency liaison between the Air Education and Training Command (AETC) and the Federal Aviation Administration (FAA) to assist in the accomplishment of the AETC mission.

2. EFFECTIVE DATE

This memorandum of understanding becomes effective when signed by both parties.

3. RESPONSIBILITIES OF THE FAA LIAISON OFFICER TO AETC

   a. The FAA liaison officer shall be assigned to AETC Headquarters.

   b. This position serves as the principal liaison for all FAA matters with AETC and coordinates with AETC on behalf of the FAA with respect to the AETC mission.

   c. The liaison officer serves on the staff of the Commander, AETC to provide recommendations and advice regarding the operational capabilities and limitations of the FAA with respect to the AETC mission.

   d. The liaison officer assists the AETC staff in providing recommendations to insure that AETC planning programs are compatible with FAA air traffic control plans, policies and procedures.

4. RESPONSIBILITIES OF THE AETC TO THE FAA LIAISON OFFICER

Provide access to briefings and information that may impact the National Airspace System or affect FAA facilities in order to effectively provide assistance to the AETC mission.

5. FISCAL AND ADMINISTRATIVE CONTROL

   a. Administrative control of the FAA liaison officer shall remain with the FAA.
b. The FAA will pay all salaries and FAA initiated expenses of the liaison officer.

c. AETC will pay for all command initiated expenses of the liaison officer.

d. In accordance with procedures established by the Commander, Air Education and Training Command, AETC will furnish the FAA Liaison Officer with office space, facilities, equipment, supplies and privileges as befit a Senior Staff Officer. Facilities, equipment, and supplies will be furnished on a nonreimbursable basis and budgeted by AETC.

e. The FAA liaison officer shall possess a top secret clearance.

6. TERMINATION OF AGREEMENT

This agreement will remain in effect until terminated by either party upon 90 days advance written notice.

[Signatures]

CHARLES H. COOLIDGE, JR., Major General, USAF
Director, Plans and Operations
Air Education and Training Command
Date:

C. ROGER WALL
Program Director,
Air Traffic Operations
Federal Aviation Administration
Date:
Appendix 4.

MEMORANDUM OF UNDERSTANDING
BETWEEN
AIR COMBAT COMMAND
AND
FEDERAL AVIATION ADMINISTRATION
CONCERNING INTERAGENCY LIAISON

1. PURPOSE

This memorandum of understanding establishes procedures and responsibilities of an interagency liaison between the Air Combat Command (ACC) and the Federal Aviation Administration (FAA) to assist in the effective accomplishment of the ACC mission.

2. EFFECTIVE DATE

This memorandum of understanding becomes effective when signed by both parties.

3. RESPONSIBILITIES OF THE FAA LIAISON OFFICER TO ACC

a. The FAA liaison officer shall be assigned to ACC Headquarters.

b. This position serves as the principal liaison for all FAA matters with ACC and coordinates with ACC on behalf of the various organizations within the FAA.

c. The liaison officer serves as a staff advisor to the Deputy Director for Operations (DO) at ACC Headquarters and to subordinate headquarters to provide advice regarding the operational capabilities and limitations of the FAA. The liaison officer recommends to the DO and his staff on the availability and utilization of FAA facilities and equipment, and current air traffic control procedures to effectively accomplish ACC's global mission, both for peace time training and actual tactical operations incident to limited war or threats of war.

d. The liaison officer assists the ACC Headquarters staff in providing recommendations to insure that ACC planning programs are compatible with FAA air traffic control plans, policies and procedures.

4. RESPONSIBILITIES OF THE ACC TO THE FAA LIAISON OFFICER

a. ACC shall provide access to essential briefings and information that may affect FAA facilities or the National Airspace System in order to effectively provide assistance to the DO and the DO's staff.
b. During tactical training missions, national emergencies or contingency movements, ACC shall provide access to the Battle Staff to assist in coordination with affected FAA facilities.

5. FISCAL AND ADMINISTRATIVE CONTROL

a. Administrative control of the FAA liaison officer shall remain with the FAA.

b. The FAA will pay all salaries and FAA initiated expenses of the liaison officer.

c. ACC will pay for all command initiated expenses of the liaison officer.

d. The FAA liaison officer shall possess a top secret clearance.

e. In accordance with procedures established by the Commander, Air Combat Command, ACC will furnish the ACC Headquarters FAA Liaison Officer with office space, facilities, equipment, supplies and privileges as befit a Senior Staff Officer. Facilities, equipment, and supplies will be furnished on a nonreimbursable basis and budgeted by ACC.

6. TERMINATION OF AGREEMENT

This agreement will remain in effect until terminated by either party upon 90 days advance written notice.

LEE A. DOWNER, Major General, USAF
Director of Operations
Air Combat Command
Date:

C. ROGER WALL
Program Director
Air Traffic Operations
Federal Aviation Administration
Date:
Appendix 5.

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE DOMESTIC AIR INTERDICTION COORDINATION CENTER
AND
THE FEDERAL AVIATION ADMINISTRATION
CONCERNING INTERAGENCY LIAISON

1. BACKGROUND

The Domestic Air Interdiction Coordination Center (DAICC), U.S. Customs Service, March AFB, Riverside, California was established by Presidential Decision Directive 14 to focus primarily upon the interdiction of domestic air trafficking threats. The DAICC will participate in the detection, monitoring, and sorting of suspect drug trafficking aircraft to the extent necessary to accomplish its interdiction mission. The DAICC will have a corollary mission of coordinating U.S. Customs air support to federal, state and local law enforcement elements conducting criminal investigations within and outside the continental United States. It will employ Department of Defense operational assets under tactical control of the Director, DAICC.

2. PURPOSE

It is the purpose of this document to set forth mutually agreed interagency liaison arrangements between the Domestic Air Interdiction Coordination Center (DAICC) and the Federal Aviation Administration (FAA) to assist in the safe accomplishment of the DAICC air interdiction mission with respect to the FAA air traffic control mission.

3. EFFECTIVE DATE

This memorandum of understanding is effective when signed by both parties.

4. RESPONSIBILITIES OF THE FAA LIAISON OFFICER TO DAICC

a. This position serves as the principal liaison for all FAA matters with the DAICC and coordinates with the DAICC on behalf of the FAA with respect to the DAICC mission.

b. The liaison officer serves on the staff of the Director, DAICC, March AFB, Riverside, California to provide advice regarding the operational capabilities and limitations of the FAA with respect to the DAICC and U.S. Customs Service mission.

c. The liaison officer assists the DAICC staff in providing recommendations to ensure that DAICC and U.S. Customs Service operations are compatible with FAA air traffic control plans, policies and procedures.
5. FISCAL AND ADMINISTRATIVE CONTROL

a. Administrative control of the FAA liaison officer shall remain with the FAA.

b. The FAA will pay for all salaries and FAA initiated expenses of the liaison officer.

c. DAICC will pay for all DAICC initiated expenses of the liaison officer.

d. In accordance with procedures established by the Director, DAICC, DAICC will furnish the FAA liaison officer with such office space, facilities, equipment, supplies and privileges as befit the status of the liaison officer assigned to the Director's staff. Facilities, equipment and supplies will be furnished on a non-reimbursable basis and budgeted by the DAICC.

6. TERMINATION OF AGREEMENT

This agreement will remain in effect until terminated by either party upon 90 days advance written notice.

Joseph W. Maxwell
Director, DAICC
U.S. Customs
Date:

C. Roger Wall
Program Director, Air Traffic Operations
Federal Aviation Administration
Date:
Appendix 6.


1. PURPOSE

This Memo of Understanding prescribes DOD/FAA agreements, duties, and responsibilities necessary to ensure the efficient and equitable joint operational use of the military IFF and the civil Air Traffic Control Radar Beacon Systems.

2. TERMS OF THE AGREEMENT

a. The military IFF Mode 3 and the ATCRBS Mode A are standardized as the common military/civil system Radar beacon Mode 3/A.

b. The FAA and DOD will continue to support the use of Mode 3/A, for ATC purposes, by military/civil international organizations.

c. The "U.S. National Standard for the Mark X (SIF)/Air Traffic Control Radar Beacon System Characteristics" shall be used to insure:

(1) That technical parameters, tolerances, characteristics, and techniques meet the operational requirements of the common military civil system.

(2) Compatibility between all appropriate elements of the common system.

d. Mode 3/A shall be reserved for:

(1) The provision of ATC services by military/ATC facilities.

(2) The identification of aircraft by air defense facilities.

(3) Any required control of all air defense aircraft.

e. The FAA will provide, maintain, and assume operational control for the ground interrogators and ancillary processing equipment at all FAA and joint use RAPCON facilities where beacon services are required for the control of air traffic on Mode 3/A.

f. Both agencies will cooperate voluntarily to avoid interference caused by the joint use of the common Radar Beacon System.

g. The expansion of the Radar Beacon System will not be opposed by either agency, but mutually, the obligation is recognized to coordinate continued development of various components for their respective portion of the system to assure maximum praticable operational utility at all times. Any developments which may affect system compatibility and performance will be coordinated between the DOD Advisory Committee on Federal Aviation and the Associate Administrator for Air Traffic. Coordination on the day to day operation of the system will be conducted by the operating services concerned.

h. The code assignment on the additional Modes 1 and 2 of the military IFF system and Modes B and D of the civil ATCRBS will be the responsibility of the respective agency. The ATCRBS Modes B and D are not contemplated for operational use and unless covered by additional agreement will not be proposed for implementation by military airborne or ground facilities.

i. The use of Mode C shall be reserved for altitude (height) reporting purposes with a code structure as contained in the U.S. National Standards.

j. Code 7700 shall be used on Mode 3/A, as specified in the U.S. National Standard, to aid in recognizing an aircraft in an emergency condition.

k. Code 7600 shall be used on Mode 3/A, as specified in the U.S. National Standard, to aid in recognizing an aircraft with two way communications failure.

l. All DOD and FAA ATC facilities shall monitor Mode 3/A, code 7700. All DOD and FAA facilities capable of displaying unique alert indicators associated with the receipt of code 7600 or 7500 shall monitor the Mode 3/A codes which generate the alert indicators.

m. The following Mode 3/A codes are assigned exclusively to the DOD for use:

(1) Within the National Beacon Code Allocation Plan (NBCAP) airspace, 256 octal codes; 5000-5077, 5400-5477, 6100-6177, and 6400-6477.
Note.—NBCAP airspace is the airspace over the U.S. territory located within the North American continent between Canada and Mexico, including adjacent territorial waters outward to abut the inner boundaries of Oceanic Control Areas (CTA)/Flight Information Regions (FIR).

(2) Outside NBCAP airspace, 1088 octal codes, 5000-7077. These codes may also be used by the
DOD in warning areas within NBCAP airspace provided approval is obtained from the appropriate FAA region to insure that there will be no adverse impact upon any FAA ATC facility.

(3) Code 7777 shall be used exclusively by interceptor aircraft on active air defense missions and operating without an ATC clearance.

Note.—These aircraft will be operating under the FAA Authorization for Interceptor Operations (AFIO).

n. All DOD Mode 3/A code allocations are specified in the National Beacon Code Allocation Plan (FAA Order 7110.66 and subsequent revisions). However, the codes assigned exclusively to the DOD, in this agreement, shall not be changed without mutual FAA and DOD consent.

o. Control, assignment, and bookkeeping of Mode 3/A codes designated for the exclusive use of the DOD, shall be the responsibility of CINCNORAD.

p. All codes not specifically designated for exclusive use by the DOD shall be reserved by the FAA and used as indicated in the NBCAP.

q. Where required, the respective agencies/military commands will issue directives to implement the terms of this agreement.

r. This agreement is effective on July 1, 1986 and it cancels the Memorandum of Understanding Between the DOD and FAA (Joint Operational Use of the Military IFF System and the Common System Air Traffic Control Radar Beacon System effective on October 1, 1975).

APPROVED
(s) Thomas S. Falatko
THOMAS S. FALATKO
Department of Defense
24 January 1986

APPROVED
(s) John R. Ryan
JOHN R. RYAN
Director, Air Traffic Operations Service
November 6, 1985
Appendix 7.

MEMORANDUM OF UNDERSTANDING
BETWEEN
FEDERAL AVIATION ADMINISTRATION AND DEPARTMENT OF
DEFENSE

ARTICLE 1—AUTHORITY
This Memorandum of Understanding (MOU) is entered into between the Federal Aviation Administration (FAA) and the Department of Defense (DOD). The FAA is entering into this MOU pursuant to statutory authority contained in Section 307(a) and (c) of the Federal Aviation Act of 1958, as amended.

ARTICLE 2—PURPOSE
This Memorandum of Understanding identifies the methods by which the FAA will provide Air Traffic Control services in the National Airspace System (NAS) to DOD aircraft which are involved in drug interdiction missions. FAA recognizes that DOD desires to conduct flight operations under IFR flight rules, to the extent practicable.

ARTICLE 3—SCOPE
The Memorandum of Understanding will apply at all FAA/DOD ATC facilities and to all DOD aircraft participating in drug interdiction mission in the NAS.

ARTICLE 4—EFFECTIVE DATE
This Memorandum of Understanding is effective when signed by both parties. In the event of an inconsistency between this MOU and any other existing agreement, the provisions of this MOU take precedence.

ARTICLE 5—REVIEW CYCLE
This Memorandum of Understanding will be reviewed annually and amended as necessary.

ARTICLE 6—TERMINATION
This Memorandum of Understanding may be terminated by mutual consent of the parties or any time upon ninety days written notice of termination by either party.

ARTICLE 7—POLICY
A. IFR service will be provided in controlled airspace. Safety of flight affecting the chase aircraft, suspect aircraft and non-participants will be of primary concern in all decisions made by the FAA. Additionally, under no circumstances will FAA derogate separation criteria.
B. Chase aircraft must request and receive approval for any change of heading/course and/or altitude.
C. When the controller is unable to continue IFR service for the interdiction mission, pilots may elect to continue the mission under VFR flight rules.
D. Launches for the purpose of intercept will be treated as active air defense scrambles and conducted within existing procedures. When it is known that the launch is for the purposes of drug interdiction, or after aircraft identification, the scramble becomes a drug interdiction mission, this information will be forwarded immediately to the appropriate FAA facility.
E. The primary means of communicating the existence of a drug interdiction mission will be by landline or via automation (i.e. remarks section of the flight plan). DOD pilots may use the word “BOISE” to inform the FAA of the above if the situation warrants.
F. Priority and special handling will be afforded aircraft participating in drug interdiction missions to the extent that this priority does not derogate safety.
G. If the suspect aircraft is participating in the ATC system, the suspect will receive all the services provided by the system, except advisories concerning the chase aircraft, so that the chase aircraft remains undetected.
H. IFR flight through Special Use Airspace (SUA) shall be authorized only when coordination and approval can be obtained by ATC. When approval cannot be obtained, the pilot shall be provided routing around the SUA.
I. Should DOD pilots desire the elimination of traffic advisories or traffic alerts, this request must be made known to the controller.
J. AWACS, or other reconnaissance, orbit requirements and launch procedures will be coordinated with the appropriate FAA facility.
K. NORAD Air Defense Sectors and appropriate ARTCCs will develop and consummate agreements regarding procedures for the transfer of control and communications of aircraft between the appropriate FAA facilities and Sector Operations Control Centers.

L. Documentation pertinent to the conduct of specific missions may on occasion be classified. However, procedures developed with the FAA to prosecute these mission will be classified no higher than "For Official Use Only." This will provide for timely briefing and access of necessary information to the controller workforce.

M. The controlling FAA facility shall effect coordination with other ATC facilities for IFR or VFR chase aircraft.

William H. Pollard
Associate Administrator
for Air Traffic

Frank J. Colson
Director
Department of Defense Policy
Board on Federal Aviation
Appendix 8.

MEMORANDUM OF AGREEMENT BETWEEN UNITED STATES AIR FORCE AND FEDERAL AVIATION ADMINISTRATION FOR DISCRETE BEACON CODE ASSIGNMENTS TO USAF AIRCRAFT OPERATING ABOVE FL 600

I. GENERAL

This Memorandum of Agreement between the United States Air Force (USAF) and the Federal Aviation Administration (FAA) provides agreement on the joint operational use of discrete beacon codes for USAF aircraft that operate above FL 600.

II. PURPOSE

The purpose of this Memorandum of Agreement is to set forth the assignment of twenty (20) discrete Mode 3/A beacon codes in code block 4400 for exclusive use by USAF aircraft that plan to operate above FL 600.

III. TERMS OF THE AGREEMENT

The USAF and FAA jointly agree to the use of discrete Mode 3/A beacon codes for USAF flights that plan to operate above FL 600 in accordance with the following:

A. FAA shall:

(1) Reserve discrete Mode 3/A codes 4454 through 4477 (twenty discrete codes).

(2) Accept one of the above discrete codes as part of an IFR flight plan (Field 04, Discrete Beacon Code Field).

(3) Insure aircraft remain on the assigned discrete code for the full duration of a flight.

EXCEPTION: When unforeseen events, such as weather deviations, equipment failure, etc., cause more than one aircraft with the same Mode 3/A discrete beacon code to be in the same or adjacent ARTCC's airspace at the same time, a controller may request the pilot to make a code change to a code not specified in the reserved group, to squawk standby, or to stop squawk.

B. USAF shall:

(1) Assure a discrete Mode 3/A beacon code is filed as part of the flight plan from the codes listed A(1) above.

(2) Insure aircraft assigned the same discrete Mode 3/A beacon codes are not flight planned to operate in the same or any adjacent ARTCC's airspace at the same time.

C. The FAA and USAF shall issue appropriate directives to their respective units/commands to insure compliance with the requirements of A and B.

D. The FAA or the USAF may without the concurrence of the other party terminate this Agreement with thirty (30) days' advance notice.

APPROVED
Raymond G. Belanger
Director, Air Traffic Service

APPROVED
Norman C. Gaddis,
Brigadier General, USAF
Deputy Director of Operations
DCS/Plans and Operations
Appendix 9.

MEMORANDUM OF UNDERSTANDING BETWEEN UNITED STATES ATLANTIC COMMAND, UNITED STATES ATLANTIC FLEET, AND FEDERAL AVIATION ADMINISTRATION CONCERNING INTERAGENCY LIAISON

1. PURPOSE

It is the purpose of this paper to set forth mutually agreed interagency liaison arrangements between the United States Atlantic Command (USCINCLANT), the United States Atlantic Fleet (CINCLANTFLT), and the Federal Aviation Administration (FAA) to assist in the effective accomplishment of the USCINCLANT and CINCLANTFLT missions. The FAA Liaison Representative is to be assigned to the USCINCLANT/CINCLANTFLT Headquarters.

2. RESPONSIBILITIES OF THE FAA LIAISON REPRESENTATIVE TO USCINCLANT/CINCLANTFLT

a. Serves as the principal liaison for all FAA matters with USCINCLANT/CINCLANTFLT and coordinates with USCINCLANT/CINCLANTFLT on behalf of the various organizations within the FAA.

b. Serves as advisor to the deputies and chiefs of staff of USCINCLANT/CINCLANTFLT to provide advice regarding the operational capabilities and limitations of the FAA with respect to the USCINCLANT and CINCLANTFLT missions. He shall also provide advice regarding International Civil Aviation Organization (ICAO) matters pertaining to operations over international waters.

c. Assists the USCINCLANT and CINCLANTFLT staffs in planning programs that are international in scope and provides recommendations to assure that the programs are compatible with FAA and ICAO traffic control plans, policies, and procedures.

d. Provides liaison services upon the request of and under the direction of the U.S. military elements of the headquarters staff of the Allied Command, Atlantic, a major command of the North Atlantic Treaty Organization.

3. FISCAL AND ADMINISTRATIVE CONTROL

a. Administrative control of the FAA Liaison Representative shall remain with the FAA. The FAA will pay all salaries and expenses of the Liaison Representative.

b. In accordance with procedures established by CINCLANTFLT, the FAA Liaison Representative will be furnished with office space, equipment, supplies, and privileges as befit the status of the Liaison Representative assigned to the headquarters. Facilities, equipment, and supplies will be furnished on a nonreimbursable basis and budgeted for by CINCLANTFLT.

4. TERMINATION OF AGREEMENT

This agreement will remain in effect until terminated by either party upon 90-days' advance written notice.

(s) Lee Baggett, Jr.
LEE BAGGETT, JR.
Admiral, U.S. Navy
Commander in Chief
U.S. Atlantic Command
21 February 1987

(s) Frank B. Kelso
FRANK B. KELSO
Admiral, U.S. Navy
Commander in Chief
U.S. Atlantic Fleet
21 February 1987

(s) Donald D. Engen
DONALD D. ENGEN
Administrator
Federal Aviation Administration
5 May 1987
Appendix 10.

MEMORANDUM OF UNDERSTANDING BETWEEN U.S. NAVAL PACIFIC FLEET AND FEDERAL AVIATION ADMINISTRATION CONCERNING INTERAGENCY LIAISON

1. PURPOSE

It is the purpose of this paper to set forth mutually agreed interagency liaison arrangements between the U.S. Pacific Fleet (CINPACFLT) and the Federal Aviation Administration (FAA) to assist in the effective accomplishment of the CINPACFLT mission. The majority of CINPACFLT’s exercise/airspace coordination with the FAA is in the eastern Pacific area adjacent to the west coast of the Continental United States. The Commander Third Fleet (COMTHIRDFLT) is the executive agent for CINPACFLT for airspace management. COMTHIRDFLT’s representative for airspace management (in the Southern California operating areas) is the Commanding Officer, Fleet Area Control and Surveillance Facility (FACSFAC) San Diego. The FAA liaison officer will be located at FACSFAC San Diego.

2. RESPONSIBILITIES OF FAA LIAISON OFFICER TO CINPACFLT

a. Although principally concerned in areas which the Air Traffic Service has the responsibility within the FAA, this position serves as the principal liaison point for all FAA matters with the Pacific Fleet, procuring for CINPACFLT information and data from the various sources within FAA and coordinating with the Atlantic Fleet on behalf of the various services in the FAA.

b. Serves as a staff advisor to the Deputy and Chief of Staff CINPACFLT or his designated representative at San Diego Headquarters to provide advice regarding the operational capabilities and limitations of the FAA air navigation and air traffic control system with respect to the CINPACFLT mission. He shall also provide advice regarding ICAO matters pertaining to operations over international waters.

c. Assists the Headquarters U.S. Pacific Fleet staff in planning programs that are international in scope and provides recommendations to insure that the programs are compatible with FAA and ICAO traffic control plans, policies, and procedures.

3. FISCAL AND ADMINISTRATIVE CONTROL

a. Administrative control of FAA personnel engaged in in providing the required services shall remain with the FAA. The FAA will pay all salaries and expenses of the liaison officer.

b. In accordance with procedures established by CINPACFLT the FAA liaison officer will be furnished with such office space, facilities, equipment, supplies, and privileges as befit the grade and status of the liaison officer assigned to the Headquarters. Facilities, equipment, and supplies will be furnished on a nonreimbursable basis and budgeted for by CINPACFLT.

4. TERMINATION OF AGREEMENT

This agreement will remain in effect until terminated by either party upon 90-days’ advanced written notice.

APPROVED:
DONALD C. DAVIS
Admiral
Commander in Chief
U.S. Pacific Fleet
DATE: February 22, 1979

APPROVED:
LANGHORNE M. BOND
Administrator
Federal Aviation Administration
Appendix 11.

MEMORANDUM OF AGREEMENT BETWEEN NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AND DEPARTMENT OF TRANSPORTATION, FEDERAL AVIATION ADMINISTRATION

GENERAL
This memorandum, made this day by and between the National Aeronautics and Space Administration (NASA) and the Federal Aviation Administration (FAA) of the Department of Transportation, provides for Tactical Air Navigation (TACAN) facility and related support for Space Shuttle flight by FAA to NASA.

Authority to execute this agreement on behalf of the Department of Transportation is vested in FAA. Authority to execute this agreement on behalf of NASA is vested in the Office of Space Transportation Systems.

1. References:
   b. Section 203(c) of the National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. 2473(c).
   d. FAA letter, November 9, 1976.

PURPOSE
The purpose of this memorandum is to establish procedures and provisions under which NASA attains TACAN facility and related support from FAA for Space Shuttle flights.

Implementation: This agreement shall be implemented and effective upon approval by parties concerned as denoted by signature of their duly authorized representatives.

RESPONSIBILITIES
General Provisions:
   a. NASA agrees to the following:
      (1) NASA shall provide to FAA Space Shuttle launch and recovery schedules at least 7 calendar days prior to effective date.
      (2) NASA shall provide launch and recovery schedule changes to FAA as soon as practical but not later than 24 hours in advance. Telephone coordination of changes to the schedule is acceptable when necessary.

   (3) NASA agrees to reimburse the FAA for all costs incurred in providing services/materials required by the Space Shuttle which exceed FAA’s requirements. These additional costs shall include the expense of electronic equipment modification, as stated in paragraph 4.b.(2) below, and maintenance, as appropriate, including personnel compensation and benefit costs, overtime, travel per diem, and any other expense incurred as a result of requirements under this agreement.

   (4) NASA studies may determine that TACAN co-channel or adjacent channel interference exists, and will negotiate with FAA for solution/s to the interference.

   (5) TACAN frequency changes necessary in support of this agreement are to be funded by NASA.

   b. FAA agrees to the following:
      (1) FAA shall provide qualified maintenance personnel at NASA designated TACAN facilities in advance of the scheduled launch and recovery mission of the Space Shuttle. The technicians shall perform a facility certification check in both cases and report any operational limitations that cannot be corrected on-site prior to scheduled NASA missions.

      (2) FAA, at designated TACAN facilities, will incorporate all the latest available approved electronic equipment modifications (EEM) affecting signal in space characteristics. Any additional costs of these EEM’s, over that of normal FAA costs, shall be funded by NASA.

      (3) FAA shall advise NASA of any programmed changes in the existing TACAN physical configuration.

      (4) FAA shall provide notification of TACAN scheduled maintenance activity requiring facility shutdown no later than 7 days prior to such maintenance. Deviations from this schedule shall be coordinated as soon as practical but not less than 24 hours in advance.

      (5) FAA, where adjacent TACAN’s or co-channel facility interference occurs with NASA designated TACAN’s, will take necessary action to eliminate the interference prior to Space Shuttle
launch and re-entry. FAA will issue any necessary notice to airmen (NOTAM).

(6) FAA shall advise NASA of any TACAN operational limiting factors on the designated TACAN’s as they occur.

**FISCAL AND ADMINISTRATIVE CONTROL**

FAA and NASA agree to the following:

(1) That local area written agreements between FAA regions and NASA will be established to handle specific details germane to a specific local area operation. Local agreements will include NASA priority use of controlled airspace at primary and emergency locations.

(2) That FAA and NASA headquarters will review each local agreement prior to its effective date to ensure compliance with all applicable policies and procedures. FAA agrees to waive its recovery of administrative overhead on local agreements. This waiver is granted by FAA after consideration of the following factors:

(a) FAA stands to gain significant flight data from the NASA mission which will benefit the operation and maintenance of the nation’s national airspace system.

(b) It is not anticipated that the NASA mission will place significant demands upon FAA facilities, equipment, or personnel. Therefore, the administrative overhead is expected to be relatively minor.

**EFFECTIVE DATE AND TERMINATION**

This agreement shall become effective upon approval of parties concerned as denoted by signature of their authorized representatives. This agreement may be terminated unilaterally by either party in consideration of a written notice 180 days in advance. This agreement shall be automatically terminated upon completion of the Space Shuttle Program.

**AMENDMENT PROVISIONS**

This agreement may be amended during the effective period by making required revisions a matter of record by numbered amendments with the mutual agreement and approval of the signatory parties.

APPROVED:

FOR THE DEPARTMENT OF TRANSPORTATION, FEDERAL AVIATION ADMINISTRATION
William M. Flener
Associate Administrator for Air Traffic and Airway Facilities

APPROVED:

FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
John F. Yardley
Associate Administrator for Space Transportation System
Appendix 12.

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE NORTH AMERICAN AEROSPACE DEFENSE COMMAND
AND THE
FEDERAL AVIATION ADMINISTRATION

1. PURPOSE

It is the purpose of this memorandum of understanding to set forth mutually agreed upon arrangements regarding responsibilities and working relationships of The North American Aerospace Defense Command (NORAD) and the Federal Aviation Administration (FAA) to ensure accomplishment of the air defense mission.

2. GENERAL

2.1 NORAD is charged with the responsibility for defending the North American continent against air attack. In accordance with the NORAD Terms of Reference, CINCNORAD is responsible for the development of plans and policies for the identification and security control of air traffic and the control of electromagnetic radiation. In this regard, CINCNORAD is authorized to coordinate directly with appropriate U.S. and Canadian agencies.

2.2 The authority and responsibilities of the FAA are stated in the Federal Aviation Act of 1958 (Public Law 85-726) 85th Congress. The FAA is charged with the responsibility for the establishment and operation of a common system of air navigation and air traffic control within the United States.

2.3 In discharging its responsibilities, NORAD makes extensive use of the airspace for a variety of operations. These operations are conducted within the framework of the FAA regulatory provisions and with the active assistance and participation of the FAA. Close coordination between NORAD, its component forces and the FAA is imperative to carry out air defense requirements effectively without undue restrictions to civil and nontactical aviation.

3. RESPONSIBILITIES

3.1. NORAD will:

3.1.1. Coordinate with the FAA on all matters which impact the National Airspace System in carrying out its mission.

3.1.2. Participate jointly with FAA in the development of plans and implementing instructions and tests for the security control of air traffic and the control of air navigation aids.

3.1.3. Coordinate with the FAA on requirements for prohibiting or restricting flights of aircraft in the interest of air defense.

3.1.4. Exchange with FAA information on nuclear detonations, biological and chemical data and provide fall out prediction data to air traffic control facilities as requested for special locations.
3.1.5. Provide FAA with Defense Conditions (DEFCONS) and air defense warnings when declared by CINCNORAD or when declared by higher authority and affecting the status of NORAD forces.

3.2. The FAA will:

3.2.1. Participate jointly with NORAD in the development of plans and implementing instructions and tests for the security control of air traffic and the control of air navigation aids.

3.2.2. Designate zones or areas essential to the NORAD mission in which it may be necessary to prohibit or restrict flights of aircraft, and the promulgation of regulations for aircraft operation in such zones or areas. Such actions will be requested through the Department of Defense.

3.2.3. Provide liaison to NORAD and its subordinate commands by assigning liaison officers with Headquarters NORAD, NORAD regions and subordinate echelons if required and mutually agreed upon.

3.2.4. Gather, process and furnish air movement data to appropriate air defense facilities in accordance with mutually acceptable procedures for all flights of civil and military aircraft requiring identification in Air Defense Identification Zones, and in other areas and conditions as agreed upon.

3.2.5. Provide air traffic control surveillance, radar control service and information in support of air defense requirements as mutually agreed upon.

3.2.6. Exchange with NORAD information on nuclear detonation, biological and chemical data and provide status and damage information on FAA facilities (includes but is not limited to air route traffic control centers and supporting radar facilities that are solely operated by FAA).

4. LIAISON

4.1. Liaison officers assigned to coordinate interagency matters at the Headquarters NORAD, Regions and subordinate echelons shall be a member of the Commander's staff. Working through appropriate staff channels, the liaison officers duties shall include:

4.1.1. Advising the Headquarters NORAD of the current policies, procedures, operational capabilities and limitations of the FAA with respect to air defense matters.

4.1.2. Effecting coordination with appropriate officers of the FAA on air defense activities.

4.1.3. Participating, as required, in conferences and in the coordination of air defense activities with civil and military agencies.

4.1.4. Assisting in the development, coordination and execution of air defense exercises.

4.1.5. Assisting in the development, coordination and execution of detailed plans for the security control of air traffic and air navigation aids.
4.1.6. In the event of an air defense emergency, be readily available on a 24-hour basis for duty as required by the appropriate headquarters. These personnel will be subject to military security regulations. The FAA will insure that such assigned personnel have a security clearance of SECRET and the HQ NORAD liaison have a TOP SECRET clearance security.

5. ADMINISTRATION

5.1. NORAD will:

5.1.1 Furnish FAA Liaison Officers to Headquarters NORAD or subordinate echelons with suitable office space, facilities, equipment and supplies. Facilities, equipment and supplies furnished will be on a nonreimbursable basis and will be funded and budgeted for by the USAF.

5.1.2. Issue appropriate orders to assigned FAA Liaison Officers authorizing necessary transportation (including travel on military aircraft), messing, billeting and emergency medical treatment as available at military installations. While performing duty for the NORAD agency concerned, FAA Liaison Officers will be accorded those privileges and courtesies normally accorded officers of equivalent rank.

5.1.3. Pay for all activities initiated by the NORAD.

5.2. The FAA will:

5.2.1. Pay all personnel costs and benefits of the FAA liaison officer. Administrative control of FAA personnel shall remain with the FAA.

5.2.2. Pay for all activities initiated by the FAA.

5.3. Requests for air defense services which require additional FAA personnel, equipment and/or communications for which military funds must be provided will be referred by the FAA to Headquarters NORAD for resolution.


G. KEITH McDONALD
Major-General, CF
Director of Operations

JEFF GRIFFITH
Program Director, Air Traffic Operations
Federal Aviation Administration

8 SEP 1997
Appendix 13.

MEMORANDUM OF UNDERSTANDING BETWEEN PACAF AND THE FAA

GENERAL

The Pacific Air Forces (PACAF) is charged with the responsibility for defending the State of Hawaii and Pacific Islands against air attack. In accordance with the PACAF Terms of Reference, CINCPACAF is responsible for development of plans and policies for identification and security control of air traffic and the control of electromagnetic radiation. In this regard, CINCPACAF is authorized to coordinate with appropriate U.S. and Host Nation agencies.

The authority and responsibilities of the Federal Aviation Administration (FAA) are stated in the Federal Aviation Act of 1958 (Public Law 85-726), 85th Congress. The FAA is charged with responsibility for establishment and operation of a common system of air navigation and air traffic control within the United States.

In discharging its responsibilities, PACAF makes extensive use of the airspace for a variety of operations. These operations are conducted within the framework of the FAA regulatory provisions and with the active assistance and participation of the FAA. Close coordination between PACAF, its component forces, and the FAA is imperative in order to carry out air defense requirements effectively without restrictions to civil and nontactical aviation.

PURPOSE

It is the purpose of this paper to set forth mutually agreed arrangements regarding responsibilities and working relationships of FAA and PACAF to insure accomplishment of the air defense mission.

RESPONSIBILITIES

PACAF Air Forces will:

1. Coordinate with the Federal Aviation Administration on all matters of mutual interest and participation in air defense.
2. Participate jointly with the FAA in development of plans for security control of air traffic and control of air navigation aids within the United States and Trust Territories and develop jointly with FAA the test procedures required thereof.
3. Coordinate with the FAA on requirements for prohibiting or restricting flights of aircraft in the interest of defense.
4. Exchange with FAA information on nuclear detonation, biological and chemical data and provide fallout prediction data to FAA air traffic control facilities as required for specific locations.
5. Provide FAA air route traffic control centers with DEFCONs and air defense warnings, as appropriate, when declared by CINCPACAF or when declared by higher authority and affecting the status of PACAF forces.

Federal Aviation Administration will:

1. Participate jointly with PACAF in development of plans, implementing instructions and test for the security control of air traffic and the control of air navigation aids.
2. Designate zones or areas essential to the PACAF mission in which it may be necessary to prohibit or restrict flights of aircraft, and the promulgation of regulations for aircraft operations in such zones or areas. Such actions will be requested through the Department of Defense.
3. Provide liaison to PACAF and its subordinate commands by assigning liaison officers with Headquarters PACAF, PACAF regions, and at subordinate echelons as may be required and mutually agreed upon.
4. Gather, process, and furnish air movement data to appropriate air defense facilities in accordance with mutually acceptable procedures for all flights of civil and military aircraft requiring identification in Air Defense Identification Zones and in such other areas and under such conditions as may be agreed upon.
5. Provide air traffic control surveillance, and radar control service and information in support of air defense requirements as mutually agreed upon.
6. Exchange with PACAF information on nuclear detonation, biological and chemical data, and provide status and damage information on FAA facilities (includes, but not necessarily limited to, air route traffic control centers and supporting radar facilities that are solely operated by FAA).

LIAISON

The Liaison Officer shall be a member of the Commander’s Staff and, working through the appropriate staff section, his duties will include:
1. Advising headquarters of current policies, procedures, operational capabilities and limitations of the FAA with respect to air defense matters.

2. Assisting in formulation of requests, and/or development of services to be performed by the FAA.

3. Effecting coordination, as required, with appropriate offices of the FAA on air defense activities.

4. Participating, as required, in conferences and in coordination of air defense activities with civil and military agencies.

5. Assisting in preparation, maintenance, and execution of air defense exercises.

6. Assisting in preparation, maintenance, and execution of detailed plans for the security control of air traffic and air navigation aids.

7. In the event of defense emergency, be readily available on a 24-hour basis for duty as required by the appropriate headquarters. These personnel will be subject to military security regulations. The FAA will insure that such personnel assigned have a security clearance of SECRET or higher.

**ADMINISTRATIVE**

PACAF will:

1. Furnish FAA Liaison Officers assigned to Headquarters PACAF or subordinate echelons with suitable office space, facilities, equipment, and supplies. Such facilities, equipment and supplies furnished will be on a nonreimbursable basis and will be funded and budgeted for by PACAF.

2. Issue appropriate orders to FAA Liaison Officers assigned, authorizing necessary transportation (including travel on military aircraft), messing, billeting, and emergency medical treatment as available at military installations. While performing duty for the PACAF agency concerned, FAA Liaison Officers will be accorded those privileges and courtesies normally accorded others of equivalent rank.

FAA will:

1. Pay all salaries and expenses of FAA Liaison Officers and their secretaries. Administrative control of FAA personnel shall remain with FAA.

2. Where resources made available by FAA for air defense purposes may not provide for all the services required, requests for such services which may require additional FAA personnel, equipment, and/or communications for which military funds must be provided will be referred by FAA to Headquarters PACAF for resolution.

**APPROVED:**

Robert W. Bazley
General, USAF
Commander in Chief
Pacific Air Forces

**APPROVED:**

Donald D. Engen
Administrator
Federal Aviation Administration
Appendix 14.

HEADQUARTERS FIRST AIR FORCE AND FEDERAL AVIATION ADMINISTRATION MEMORANDUM OF AGREEMENT

PURPOSE
This agreement establishes procedures and responsibilities for terminating First Air Force communications in Federal Aviation Administration (FAA) facilities.

GENERAL
1. Tactical Air Command is charged with the responsibility of administering, training, and equipping all U.S. Air Force atmospheric defense resources in the continental United States (except Alaska) (including a vast communications network) required by the Commander in Chief, North American Aerospace Defense Command (CINCNORAD), to defend North America. Within Tactical Air Command, this responsibility has been assigned to the Commander, First Air Force. The FAA recognizes this responsibility and the need for adequate communications between First Air Force and FAA facilities in support of the defense effort. Therefore, in the national interest it is agreed that First Air Force communications are authorized to be installed in FAA facilities under conditions and for the purposes specified herein.

2. For purposes of this agreement, the term “FAA facilities” is limited to those locations engaged in active control of aircraft (e.g., air route traffic control centers, approach controls, control towers). FAA radar sites are specifically excluded. Placement of communications equipment in radar sites is worked under the auspices of the Joint Radar Planning Group (JRPG).

3. The necessity for terminating new First Air Force circuits in the FAA facilities or modifying existing configurations results from two basic sources:
   a. TAC/First Air Force or NORAD operations plans or procedures may establish requirements at all CONUS air divisions.
   b. A special mission assigned an individual air division may require a capability within individual FAA regions.

4. GTE Telecom, Inc., (GTETI) is under contract to the government to provide the communications services necessary to support the Joint Surveillance System (JSS). In this capacity, GTETI shall assist First Air Force in designing and writing specifications for all air defense system communications requirements.

GTETI will also produce and maintain current a “Communications Services Manual,” which will contain system, subsystem, and facility descriptions, interfaces, and parameters of GTE and leased services including drawings.

ACTION
1. Headquarters First Air Force will coordinate with FAA Washington, Systems Plans and Programs Division (ATR-100), through the Air Defense Liaison Officer (ADLO) at HQ NORAD, any changes contemplated to the design or type of First Air Force circuitry which are to be terminated in FAA facilities.

2. At First Air Force air divisions, the Director of Information Systems (SI) will coordinate all requirements (circuit starts, changes, or disconnects including subsequent amendments to a basic order) affecting the air division with the FAA Air Defense Liaison Officer (ADLO) supporting the First Air Force air division.

3. FAA/ATR-100 will advise all affected FAA regions of their concurrence/approval of new/revised communications at FAA facilities. The air division FAA ADLO will be responsible for direct coordination of the details of the new/modified installation with appropriate FAA facility personnel.

4. First Air Force and the air divisions will advise the FAA as outlined above as soon as practicable after identification of a new requirement with as much detail as is available at that time. For new types of services, HQ First Air Force will further coordinate with the FAA the final detailed description that will be included in the “Communications Services Manual.”

5. Every attempt will be made to have communications initially installed in their final approved standard configuration. However, nonstandard installations may be made when mutually agreed to by FAA Washington and HQ First Air Force, pending the acquisition of necessary equipment to permit a standard installation.

AUTHORIZED CIRCUITS
1. Scramble (SC)—Point-to-point circuits used for transmission of scramble notification from a Region Operations Control Center (ROCC) to a Fighter In-
interceptor Squadron (FIS), the control tower, the terminal area controlling facility, and the appropriate ARTCC. These circuits terminate in the ARTCC and the terminal area control facility with a selective feature at the FIS operations dispatch center (ODC) to preclude the transmission of other than pertinent information to these facilities.

2. Aircraft Movement Information Service (AMIS)—Point-to-point Teletype circuits used for the transmission of air movement (flight plan) data from the ARTCC to a ROCC or other designated facility.

3. Liaison (LN)—Point-to-point circuits having two-way dial capability used to pass airspace, flight plan, interceptor recovery coordination, and AMIS voice revisions between ROCC's and the ARTCC's.

4. Voice Page Hotlines (VPHL)—Point-to-point communications terminating in monitor speakers at both ROCC's and ARTCC's so that direct access is available without the need for dial-up operations.

**ORDERING PROCESS**

1. A Request for Service (RFS) is used for ordering circuits or changes affecting individual circuits. RFS's are submitted via computer-formatted electrical messages.

2. RFS's for types of services that have been previously approved (see AUTHORIZED CIRCUITS above) and are included in the "Communications Services Manual" can be processed by the air division without higher level approval. New categories of communications services that may be of a controversial nature will be referred to HQ 1AF/SI and the NORAD ADLO for approval prior to RFS preparation.

3. At the outset of RFS preparation, First Air Force air division Information Systems personnel shall coordinate with the concerned FAA ADLO who shall review the requirement and circuit specifications. The ADLO shall coordinate the requirement with the appropriate ATC facility and request an FAA project number from the FAA region. The assignment of the project number will formally indicate FAA region concurrence. The FAA project number shall be included in the statement of work (Block 401) of the Telecommunications Service Request (TSR).

4. The air division ordering personnel shall ensure that the FAA ADLO and the affected FAA region/FAA facility are included as information addressees on the RFS message and receive copies. The air divisions will address the RFS to HQ 1AF/SI for action. Upon validation, HQ First Air Force will coordinate with HQ TAC/SIPC who will in turn transmit the validated RFS message to HQ AFCC for completion of the ordering process. This validated RFS message shall be addressed to all agencies who received the original RFS message. Receipt of the message from HQ TAC forwarding the RFS to HQ AFCC will constitute formal notification to USAF and FAA field activities that HQ First Air Force has approved and validated the requested service. As standard practice, all further correspondence relating to the RFS will be distributed to all addressees on the original air division-generated RFS.

5. In the event HQ First Air Force disapproves a request for service, HQ First Air Force will notify the appropriate ADLO, FAA region/FAA facility via electrical message. This action will permit the release of the FAA project number.

6. Occasionally, air divisions may issue a "Commercial Communications Work Order" (CCWO) which may impact the FAA. Under these circumstances, final approval at the air division-FAA region level is considered sufficient. Air division commercial communications personnel shall provide the ADLO with two completed copies of the CCWO, one of which will be forwarded to the FAA region to permit initiation of an appropriate companion order if required.

7. Under normal circumstances, the FAA shall be responsible for terminating authorized circuits in FAA equipment at FAA locations. Where sufficient terminal equipment already exists, this termination will be at no cost to First Air Force. However, if additional terminal equipment is needed at an FAA facility to meet a First Air Force requirement, the FAA, at its option, may require First Air Force to fund for the equipment.

8. First Air Force shall be responsible for the installation of AMIS teletypewriters and associated equipment. The FAA shall be responsible only for providing a suitable location when agreement is reached for the installation for such equipment. The initial installation of a teletypewriter shall be coordinated by the air division with the appropriate FAA region through the ADLO. A letter or a drawing shall be provided by the FAA region to the air division through the ADLO, designating the desired location of the aforementioned equipment. This information shall be forwarded to HQ First Air Force by the air division and shall be included in the RFS by reference.

First Air Force

BUFORD D. LARY

Major General, USAF
Commander

Federal Aviation Administration

WALTER S. LUFFSEY

Associate Administrator
for Air Traffic

Appendix 14
Appendix 15.

MEMORANDUM OF UNDERSTANDING—ATLANTIC MINIMUM COMMUNICATIONS CROSSINGS

SUBJECT

This memorandum of Understanding establishes procedures to be used in the control and coordination of United States Military Airlift Command (MAC) aircraft conducting Atlantic Minimum Communications (MINCOMM) crossings. This includes MAC assigned assets, Civil Reserve Air Fleet (CRAF), and Strategic Air Command (SAC) Tanker support for MAC refuelings.

1. PURPOSE

This Memorandum of Understanding establishes procedures to be followed by signatory countries in the control and coordination of United States Military Airlift Command (MAC) aircraft conducting MINCOMM crossings of the Atlantic to Europe at times during which normal ICAO procedures apply.

2. SCOPE

This Memorandum of Understanding is applicable to all signatory agencies.

3. RESPONSIBILITIES

Specific responsibilities for air traffic control procedural applications are contained in the appropriate annex.

4. REVISION PROCEDURES

Each annex to this Memorandum may be revised individually without requiring revision to the entire Memorandum of Understanding. The revised annex need only be coordinated and agreed to by the agencies involved. The revision date shall be the effective date of the procedure. This Memorandum of Understanding shall be reviewed annually for content or when required for procedural changes.

5. OBJECTIVE

Establish procedures to move MAC managed aircraft discreetly from departure bases in the United States to European destinations by minimizing dissemination of flight data.

6. CONCEPT OF OPERATIONS

Special procedures and routings apply from departure to destination. Area unique procedures are delineated in the appropriate Annex.

a. Safety—Safety must remain foremost throughout the execution of MINCOMM procedures. Flight safety will not be compromised to accomplish airlift objectives. MINCOMM will be terminated anytime unsafe or emergency situations exist, or when directed by air traffic control.

b. Separation—En route spacing is based on constant airspeeds and minimum time intervals. Crews will operate under the concept of military assumes responsibility for separation of aircraft (MARSA) when established on ALTRV. Minimum aircraft/formation separation is 30 minutes. Aircraft commanders will ensure separation is maintained by flying a constant .74 Mach. Aircrews will not make position reports or other radio transmissions unless required by en route/operational constraints, diversions, emergency conditions or instructed by air traffic control.

c. Emergencies—Should an emergency arise, the aircraft commander will immediately terminate the MINCOMM procedures and break radio silence, declare the emergency, and advise the appropriate air traffic control facility of intentions. They will also contact the appropriate Airlift Control Center to advise and coordinate a course of action. In the event of an in-flight contingency, the special procedures (guidance) contained in NAT SUPPS DOC.7030 will be followed. (See FLIP AP/2, Chapter 5, Section A, Additional Information.)

d. Diversion—If aircraft must divert, for any reason, radio silence shall be terminated and the Airlift Control Center or Operations Center and appropriate ATC facility will be contacted to coordinate a course of action.

e. Lost Communications—Pilots experiencing radio failure will comply with standard ICAO lost communications procedures.

f. Search and rescue—The 21 AF Operations Center will flight follow MAC aircraft and assume responsibility for search and rescue (SAR) alert notification when aircraft are not under ATC radar control.

g. Weather Monitoring—Current weather observations will be available by monitoring MAC
VOLMET broadcasts. Normal meteorological elements of wind, visibility, weather, clouds, temperature, and pressure information are included in these observations.

7. APPROVAL

Activation of preplanned routes will be accomplished by mission planners submitting an altitude reservation (ALTRV) approval request (APREQ) in accordance with FAAH 7610.4, Special Military Operations, to the United States Central Altitude Reservation Facility (CARF), the European Central Altitude Reservation Facility (EUCARF) and the Canadian Airspace Reservation Unit (ARU). A minimum of 5 days advance notification for activation is required, unless a real world situation necessitates less notice and the Department of Defense confirms a higher priority requirement. Mission approval/disapproval will be provided to CARF, EUCARF, or ARU by nations concerned not later than 48 hours prior to start of exercise. Usable Flight Levels will be covered in the appropriate annex. MAC Numbered Air Forces are responsible for publishing crew briefing materials when MINCOMM procedures are activated.

8. GENERAL PROCEDURES

a. Flight Plans—ICAO flight plans will not be filed for aircraft conducting MINCOMM crossings, with the exception of aircraft which will fly in Belgium airspace. Belgium is not a signatory to the MOU, and aircraft must terminate MINCOMM procedures prior to entering Belgium airspace. This requires pre-filed flight plans (DD Form 1801) to be activated while en route. Controllers are requested not to ask routing to reveal aircraft destinations. Controllers are requested to not answer queries from other military or civil aircrews concerning MINCOMM aircraft.

b. Hand Off Procedures—Controllers will initiate handoffs by instructing aircrews to change frequencies. Pilots will acknowledge frequency changes by first changing to the assigned frequency and then squawk “Ident”. This indicates the pilot received the transmission and also alerts the next ATC facility. Should controllers require a read back or verbal acknowledgement from the pilot, the controllers will state “ACKNOWLEDGE” at the end of the transmission.

c. Position Reports—Position reports will be by exception. As long as the estimated time of arrival (ETA) at each reporting point is within plus or minus 15 minutes of the scheduled takeoff time plus the flight planned en route flying time to that point, no report will be necessary. (Scheduled takeoff time is defined as the takeoff time published in the MAC OPORD as amended by the MAC Numbered Air Force Supplement to the OPORD.) If an aircrew discovers that an ETA for any compulsory reporting point will be more than 15 minutes different than the planned ETA, the aircraft commander will break radio silence and advise ATC of the new ETA and resume MINCOMM procedures when the new ETA is acknowledged. The air traffic control agency receiving updated ETA will correct and pass the new ETA to adjacent facilities.

d. Transponder Codes—Specific code assignments will be addressed in the appropriate annexes.

e. Aircraft Aborts or Delays—Aircraft aborts or delays will be passed to CARF/EUCARF/ARU (for Goose departures) by 21 AF Operations Center as soon as possible. CARF/EUCARF/ARU will notify affected ATC agencies.

f. Call signs—Aircraft call signs for MINCOMM missions will be ‘MAC (mission alfa code) XX’. These call signs will be prepared by mission planners prior to requesting altitude reservations. A flow plan will be prepared and distributed to ATC facilities a minimum of 5 days before first ETD. This listing will reflect mission numbers and call signs; i.e., Mission: A023RF, Call Sign: MAC R10. (Note: digits cannot be 8 or 9). ETDS will be provided in the Flow Plan.

g. Terminations Points—MINCOMM silent procedures will terminate at defined points outlined in the appropriate annex.

9. ROUTES

MINCOMM routes are listed below and shall be on file at CARF, EUCARF, ARU, and affected air traffic control facilities prior to implementation of MINCOMM procedures. Each route is assigned an identification number to facilitate and streamline coordination of MINCOMM missions; i.e., MINCOMM1. Mission names will be assigned for exercise MINCOMM crossings; i.e., REFORGER.

10. UNITED STATES/CanadaN Routes

The routes listed below are to be used when conducting MINCOMM crossings in the United States and Canada to join Atlantic MINCOMM crossing routes at Nantucket or Goose.

a. Routes to NANTUCKET (ACK) to join Oceanic routes:


(2) MINCOMM 2: MEM . J42 . RBV . J62 . ACK
  b. Routes to Goose (YYR) to join Canadian/Oceanic routes:

11. OCEANIC ROUTES

The routes listed below are to be used when conducting MINCOMM crossings of the Atlantic.

NOTE.—Aircrrews shall be thoroughly familiar with FLIP AP/2, Chapter Five, North Atlantic (NAT) region procedures.

  a. Southern route to Europe from Nantucket to Europe via Lajes:
    (1) Nantucket to Lajes: MINCOMM 7—ACK . JOBOC . 41N 060W . 41N 050W . MIKE . FLO . GRA . GP

  (2) Lajes to Europe: MINCOMM SOUTH—LAJES ONE DEPT . ALPHA RADAR ALPHA . 44N 020W . 45N01820W . 50N 008W . LND . TR1 . WD4
    b. Northern route to Europe: Flight Level 290 MINCOMM NORTH—LOACH . 57N 050W . 59N 040W . 59N 030W . 59N 020W . 59N 010W . QN9

(s) JAMES D. KELLIM, Major General, USAF
Deputy Chief of Staff Operations
Headquarters Military Airlift Command

(s) J. M. L. BOURGEOIS, Major General (CF)
Director, NORAD Combat Operations Staff
Headquarters North American Aerospace Defense Command

(s) ROBERT L. PAUL, Colonel, USAF
Assistant Director, Special Operations
Directorate of Operations
Headquarters United States Air Force

(s) DAVID J. HURLEY
Federal Aviation Administration
Manager, Air Traffic Operations Division
Appendix 16.

Memorandum of Understanding (MOU) Between the Federal Aviation Administration (FAA) and North American Aerospace Defense Command (NORAD) on Intercept Procedures

I. PURPOSE AND SCOPE.

Successful track of interest (TOI) intercept depends on teamwork and coordination between the FAA and NORAD. This MOU defines standard procedures for the intercept phase of all NORAD active air defense missions within the airspace controlled by the FAA or under the jurisdiction of the FAA. The procedures in this MOU define the roles and responsibilities of each agency with the primary intent to maximize flight safety for all aircraft operating in the National Airspace System (NAS) during NORAD air defense intercept operations and ensure successful TOI intercept.

II. GENERAL.

A. NORAD is charged with the responsibility for defending North America against air attack. As a result of the terrorist’s attacks of September 11, 2001, NORAD’s focus has expanded from primarily defending against external aerospace threats to also include internal aerospace threats. In accordance with NORAD Terms of Reference, Commander NORAD (CDRNORAD) is responsible for the development of plans and policies for the identification and security control of air traffic and the control of electromagnetic radiation. In this regard, CDRNORAD is authorized to coordinate directly with appropriate United States and Canadian agencies.

B. FAA is responsible for the safe and efficient use of the navigable airspace as described in Title 49 of the United States Code, Section 40103. The FAA is charged with the responsibility for the establishment and operation of a common system of air navigation and air traffic control (ATC) within the U.S.

C. In discharging its responsibilities, NORAD makes extensive use of the airspace for a variety of operations. These operations are conducted within the framework of the FAA regulatory authority and with the active assistance and participation of the FAA. Close coordination between NORAD and the FAA is imperative to carry out air defense requirements effectively.

III. AUTHORIZATION.

Authority is granted to CDRNORAD to operate interceptors subject to the conditions and in compliance with the responsibilities and standard operating procedures set forth herein.

With prior CDRNORAD consultation, the Director of Air Traffic, or his designee, shall modify, revise, or cancel any part of this Authorization as necessary to meet changing requirements. Close coordination between the FAA and NORAD is necessary to ensure full consideration is given to national defense requirements and the effect those modifications, revisions, or cancellations may have on these requirements.
In recognition of the FAA’s statutory responsibility, FAA Air Traffic Planning and Procedures (ATP) personnel and air defense liaison officers must have access, as necessary, to the Air Defense Control Facilities (ADCFs) operating under the scope of this authority in order to assist the Program Director for ATP (ATP–1), in determining the adequacy of responsibilities and procedures set forth in this MOU. This Authorization is subject to the conditions articulated below.

IV. CONDITIONS.

The following conditions are prerequisite to the exercise of this authority by NORAD.

A. NORAD interceptors will operate under ATC control unless Authorization for Interceptor Operations (AFIO) is declared.

B. In cases where a competent military authority determines the threat posed by a TOI warrants interceptors deviating from an ATC clearance, the military authority shall declare AFIO and notify ATC.

C. When a competent military authority declares AFIO, the interceptors also shall notify ATC and then maneuver as required to ensure successful TOI intercept.

D. ATC, ADCFs and interceptors must adhere to the responsibilities defined in Section V, VI, and VII below.

E. When a situation requires an interceptor to operate under AFIO and deviate from an ATC clearance, a national security threat assessment made by NORAD dictates a higher assumed level of risk.

F. For purposes of this MOU, the intercept phase begins with the notification to ATC by the competent military authority or interceptors of an active air defense mission. The intercept phase concludes with active air defense mission termination.

V. ATC RESPONSIBILITIES.

A. ATC facilities shall:

1) Provide ATC priority to the interceptor engaged in an active air defense mission.

2) Provide ATC services, including standard separation, when controlling an interceptor.

3) Provide traffic information on other known aircraft that are between the interceptor and the TOI, upon interceptor request and workload permitting.

4) Provide the most direct clearance to the TOI.

Note: Unless otherwise informed, once the interceptor communicates that the TOI is intercepted, the interceptor is to operate within a 5-mile radius and plus/minus 2,000 feet vertical of the TOI.
5) Advise an interceptor and ADCF of anticipated delays, restrictions, etc., which may affect the mission’s success if unable to comply with provisions 1 thru 4.

B. When it is determined that operations within the ATC system will delay TOI intercept and adversely affect national security, the competent military authority may declare “AFIO.” Upon declaring “AFIO,” NORAD assumes responsibility for the interceptor to see and avoid all known aircraft and ensure safe intercept. ATC facilities will continue to provide the following air traffic services:

1) Traffic advisory services to the interceptor and all other affected aircraft including the TOI.

2) “Point out” information to affected ATC sectors and/or ATC facilities.

Note: An interceptor deviating from an ATC clearance may lose the positive radar separation normally provided between the interceptor and all other aircraft.

C. Except when air safety is the primary consideration, every precaution shall be taken to prevent the TOI from gaining knowledge that an intercept mission is being conducted.

D. When requested by NORAD, ATC facilities shall provide documentation on delays and restrictions affecting mission success to CDRNORAD through ATP-200 in FAA Headquarters.

VI. ADCF RESPONSIBILITIES.

A. ADCFs shall:

1. Comply with ATC facilities notification requirements as outlined in FAA Order 7610.4, Chapter 4, Section 11, Scramble/Airborne Orders.

2. Provide and/or confirm with ATC facilities the TOI location and/or the designated Combat Air Patrol location the interceptors are proceeding to as soon as possible.

3. Establish and maintain two-way radio communications and radar identification of interceptors to the maximum extent possible within system capabilities.

4. Act as the competent military authority, within the NORAD chain of command, responsible for determining when AFIO is necessary and declaring AFIO.

5. Inform immediately the appropriate ATC facilities of interceptor deviations declared under AFIO and ensure that interceptor and ADCF intentions, including call signs, are passed to ATC.

6. Notify the interceptors when AFIO is declared.
B. When requested by the FAA, ADCFs shall provide documentation of AFIO declaration to ATP–200 in FAA Headquarters through CDRNORAD.

VII. INTERCEPTOR RESPONSIBILITIES.

Interceptors shall:

1. Obtain takeoff clearance prior to departure.
2. Adhere to the scramble procedures as contained in the appropriate letters of agreement, unless otherwise cleared by ATC.
3. Maintain two–way communications with the appropriate ATC facility.
4. Advise the controlling facility of adverse weather conditions affecting the intercept.
5. Comply with ATC facility instructions and operate in accordance with applicable Federal Aviation Regulations unless otherwise authorized by the FAA or the competent military authority declares AFIO.
   a. Inform appropriate ATC facilities when AFIO is declared.
   b. Use all on board systems to maintain separation from other known aircraft.
6. Advise ATC when the TOI has been acquired by onboard systems and/or visual contact has been achieved.
7. Notify the ATC facility when the TOI has been intercepted (established within a 5–mile radius and plus/minus 2,000 feet vertical of the TOI). Remain within this airspace or notify the ATC facility if unable to comply.
8. Ensure separation from the TOI visually and/or by onboard systems.
9. Inform ATC of active air defense mission termination.

VIII. EFFECTIVE DATE AND MODIFICATIONS.

This MOU shall become effective on the last signature date below and shall remain in effect until otherwise rescinded or modified by the FAA with prior CDRNORAD consultation.
IV. CANCELLATION.


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General Ralph E. Eberhart  
USAF  
Commander in Chief, NORAD

**FEB 19 2003**  
Date

Bill G. Peacock  
Director of Air Traffic, AAT–1

**MAR 3 2003**  
Date
Appendix 17.

DOT/FAA/FEDERAL COMMUNICATIONS COMMISSION (FCC)
SCATANA PLAN

SECTION I. EXPLANATION OF TERMS

For the purpose of this plan and supporting documents, the following explanations apply:

1. Air Defense Emergency. An emergency condition which exists when attack upon the continental United States, Alaska, Canada, or US installations in Greenland by hostile aircraft or missiles is considered probable, imminent, or taking place.

2. Air Defense Identification Zone. The area of airspace over land or water, extending upward from the surface, within which the ready identification, location, and control of aircraft is required in the interest of national security.

3. Air Navigation Aids (NAVAID's).
   a. Federal NAVAID's. Radio beacons, VOR/DME, VORTAC, TACAN, and ILS/MLS stations owned and operated by an agency of the Federal Government, such as the FAA, Military Services, and United States Coast Guard.
   b. Non-Federal NAVAID's. VOR/DME, LF/MF radio beacons, and ILS/MLS stations licensed by the FCC.

4. Appropriate Military Authorities. Within the NORAD area of responsibility, CINCNORAD and NORAD Region Commanders. NORAD Region Commanders may delegate military authority to sector commanders as appropriate. Outside the NORAD area of responsibility, the Commander in Chief, or his designated representative, of the unified or specified command exercising operational control over the area.

5. Defense Area. Airspace of the United States other than airspace designated as an Air Defense Identification Zone within which the ready control of aircraft is required in the interest of national security during an Air Defense Emergency or Defense Emergency.

6. Defense Emergency. An emergency condition which exists when:
   a. A major attack is made upon U.S. forces overseas, or allied forces in any area, and confirmed either by the commander of a unified or specified command or higher authority.
   b. An attack of any type made upon the United States and is confirmed either by the commander of a command established by the Secretary of Defense or higher authority.

7. Dispersal. Relocation of aircraft to different operating bases for the purpose of increasing survivability.

8. Diversion. The intentional change of a flight from its intended destination for operational or tactical reasons.


10. FAA Region. A geographical subdivision of the FAA area of responsibility.

11. Implement SCATANA. The phrase used to direct FAA to commence those actions required in the SCATANA Plan (see Section IV).

12. Nontactical Air Traffic. Civil or military flights other than tactical air traffic (see #20).


14. NORAD Region. A geographical subdivision of the NORAD area of responsibility.

15. NORAD Sector. A geographical subdivision of the NORAD region for which NORAD is responsible.

16. Rerouting. The intended deviation of a flight from its original course without changing its destination.

17. SARDA. State and Regional Disaster Airlift. A plan for the use of non-air carrier aircraft during a national emergency.


19. Security Control Authorization. Military authorization for an aircraft to takeoff when Emergency Security Control of Air Traffic (ESCAT) is applied or SCATANA has been implemented (see Sections III and IV).

20. Tactical Air Traffic. Military flights engaged in an operational mission against the enemy, flights engaged in immediate deployment for a combat mis-
sion, and preplanned combat and logistical support flights contained in Emergency War Plans.

21. United States. The several states, the District of Columbia, the Commonwealth of Puerto Rico, and the several territories and possessions of the United States (including areas of air, land, or water administered by the United States under international agreement) including the territorial waters and the overlying airspace thereof.

22. Wartime Air Traffic Priority List (WATPL). The list contains eight priorities designed to control the volume of air traffic when SCATANA has been implemented (see Section V).

23. Use of the Words Will and Shall. For the purposes of this plan, the words "will" and "shall" denote mandatory compliance by the affected persons or agency(ies).

24. List of Acronyms and Abbreviations:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADIZ</td>
<td>Air Defense Identification Zone</td>
<td></td>
</tr>
<tr>
<td>ADLO</td>
<td>Air Defense Liaison Officer</td>
<td></td>
</tr>
<tr>
<td>AMA</td>
<td>Appropriate Military Authority</td>
<td></td>
</tr>
<tr>
<td>ARTCC</td>
<td>Air Route Traffic Control Center</td>
<td></td>
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<tr>
<td>ATC</td>
<td>Air Traffic Control</td>
<td></td>
</tr>
<tr>
<td>ATCCC</td>
<td>Air Traffic Control Command Center</td>
<td></td>
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<tr>
<td>CINCNORAD</td>
<td>Commander in Chief, North American Aerospace Defense Command</td>
<td></td>
</tr>
<tr>
<td>CARDA</td>
<td>Continental Airborne Reconnaissance for Damage Assessment</td>
<td></td>
</tr>
<tr>
<td>CRAF</td>
<td>Civil Reserve Air Fleet</td>
<td></td>
</tr>
<tr>
<td>DME</td>
<td>Distance Measuring Equipment</td>
<td></td>
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<tr>
<td>DOD</td>
<td>Department of Defense</td>
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<tr>
<td>DVFR</td>
<td>Defense Visual Flight Rules</td>
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<tr>
<td>ESCAT</td>
<td>Emergency Security Control of Air Traffic</td>
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<tr>
<td>EWO</td>
<td>Emergency War Orders</td>
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<tr>
<td>FAA</td>
<td>Federal Aviation Administration</td>
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<tr>
<td>FCC</td>
<td>Federal Communications \nCommission</td>
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<tr>
<td>ICAO</td>
<td>International Civil Aviation \nOrganization</td>
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<tr>
<td>IFR</td>
<td>Instrument Flight Rules</td>
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<tr>
<td>ILS</td>
<td>Instrument Landing System</td>
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<tr>
<td>JCS</td>
<td>Joint Chiefs of Staff</td>
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<tr>
<td>LF</td>
<td>Low Frequency</td>
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<tr>
<td>MF</td>
<td>Medium Frequency</td>
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<tr>
<td>MLS</td>
<td>Microwave Landing System</td>
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<tr>
<td>NAVAIMD</td>
<td>Navigation Aid</td>
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<tr>
<td>NDB</td>
<td>Nondirectional Beacon</td>
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<tr>
<td>NORAD</td>
<td>North American Aerospace Defense Command</td>
<td></td>
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<tr>
<td>ROCC</td>
<td>Region Operations Control Center</td>
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<tr>
<td>SCA</td>
<td>Security Control Authorizations</td>
<td></td>
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<tr>
<td>SAC</td>
<td>Strategic Air Command</td>
<td></td>
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<tr>
<td>SARD</td>
<td>State and Regional Disaster Airlift</td>
<td></td>
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<tr>
<td>SCATANA</td>
<td>Security Control of Air Traffic and Air Navigation Aids</td>
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<tr>
<td>SIF</td>
<td>Selective Identification Feature (Transponders)</td>
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<tr>
<td>SOCC</td>
<td>Sector Operations Control Center</td>
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<tr>
<td>TACAN</td>
<td>Tactical Air Navigation</td>
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<tr>
<td>VFR</td>
<td>Visual Flight Rules</td>
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<tr>
<td>VHF</td>
<td>Very High Frequency</td>
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<tr>
<td>VOR</td>
<td>VHF Omnidirectional</td>
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<td>VORTAC</td>
<td>VHF Omnidirectional/Tactical Air Navigation</td>
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</tr>
<tr>
<td>WASP</td>
<td>War Air Service Program</td>
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WATPL: Wartime Air Traffic Priority List

SECTION II. GENERAL PROVISION OF THE PLAN

A. PURPOSE AND SCOPE

1. Periods of various emergency conditions demand security control of both civil and military air traffic and NAVAIDs. This control will enhance the maximum use of airspace for defense and defense-supported activities and civil aircraft consistent with air safety.

2. Selective and systematic control/shutdown of air navigation aids will be effected appropriate to the extent of the emergency conditions existing or expected to exist. These constraints will be placed on air traffic and air traffic facilities as determined by NORAD for the area of NORAD responsibility or by the commander of the unified/specified command having operational control over the area involved. This plan applies to all United States territory over which the FAA has air traffic jurisdiction by international agreement.

3. This plan covers two distinct levels of restraints.

   a. Emergency Security Control of Air Traffic (ESCAT) can be imposed for an emergency situation that does not meet the criteria for the declaration of a Defense Emergency or Air Defense Emergency.

   b. Security Control of Air Traffic and Air Navigation Aids (SCATANA) for use normally after the declaration of a Defense or Air Defense Emergency.

4. This plan establishes responsibilities, procedures, and instructions for application of both ESCAT and SCATANA as an emergency preparedness course of action.

B. AMPLIFYING INFORMATION

1. Interference with normal air traffic will be minimized consistent with the requirement for operation of the air defense system.

2. Appropriate unified/specified commands, in conjunction with the FAA Air Traffic managers, will prepare annexes and agreements supplementing this plan for their area of responsibility. These supplements are to consider the special requirements of organized civil defense and disaster relief flights, agricultural and forest fire flights, border patrol flights, and other essential civil air operations to the end that maximum use of these flights, consistent with air defense requirements, will be made when ESCAT and SCATANA are in effect.

3. Military air operations vital to national defense; e.g., SAC and TAC flights, civil U.S. and foreign flag civil air carrier flights under mission control of the military, and flights of foreign flag carriers oper-
C. AUTHORITY

1. Joint Strategic Capabilities Plan (JSCP).
3. Communications Act of 1934, as amended.
4. Executive Order 11490.

D. RESPONSIBILITIES

1. CINCNORAD will:
   a. Establish the military requirements for ESCAT and SCATANA.
   b. Coordinate with the Commanders of Unified and Specified Commands, the OJCS, the DOD Advisory Committee on Federal Aviation, the Administrator, FAA, and the Defense Commissioner, FCC, as appropriate, regarding the establishment of procedures for implementation.
2. The Administrator, FAA will:
   a. Establish the necessary FAA directives/plans including special ATC procedures to implement this plan.
   b. Coordinate with appropriate military authorities prior to the establishment of procedures for this plan.
3. Maintain liaison with appropriate NORAD Region/Sector commanders through appropriate FAA offices.
4. Administer this plan in accordance with requirements established by the Commander in Chief, North American Aerospace Defense Command.
5. Cooperate with the FCC in establishing procedures for control of non-Federal NAVAIIds as defined in this plan.
6. Insure that authorized FAA ADLO positions at operational units are adequately staffed.
7. Publish a common-use document describing SCATANA and its purpose for use by civil aviation.
8. Federal Communications Commission will:
   a. Engage in rulemaking or other actions, as appropriate, in support of this plan.
   b. Cooperate with the FAA in establishing procedures for control of non-Federal NAVAIIds as defined in this plan.

3. Appropriate Military Authorities will:
   a. Direct the control of NAVAIIds (VOR/DME, VORTAC, TACAN, NDB, ILS, and MLS) within their cognizance as required.
   b. Issue security control instructions to the appropriate FAA regions, ARTCCs, and the Air Traffic Control Command Center, as necessary, to insure performance of their air defense mission.
c. Maintain liaison with appropriate FAA regional Air Traffic managers and with the FCC.

d. Conduct tests of this plan in coordination with the FAA and FCC.

e. Cooperate with the FAA regional Air Traffic managers and with the FCC in making supplemental agreements to this plan.

5. The FAA regional Air Traffic managers will:

a. Assure FAA participation with the NORAD Region/Sector commanders in the testing of this plan.

b. Insure dissemination of information and instructions concerning this plan within their areas of responsibility to civil and military aeronautical facilities and civil pilots.

c. Place in effect procedures outlined in this plan in accordance with requirements established by appropriate military authorities.

d. Assist appropriate military authorities in making supplemental agreements to this plan as may be required.

e. Insure each ARTCC has a plan for expeditiously diverting or landing all aircraft according to the SCATANA priorities imposed upon implementation of SCATANA. The plans should also address the expeditious control of NAVAIDs. Insure a review and verification of the diversion plan is accomplished each calendar year.

f. Coordinate with the appropriate military authority to establish a listing of aeronautical facilities (Federal and non-Federal) by ARTCC and NAVAIDs controlled by each facility.

6. Commanders of Unified and Specified Commands will:

a. Insure that North American air traffic movement sections of the Emergency War Plans are coordinated with appropriate NORAD and FAA authorities.

b. Identify specific NAVAIDs (VOR/DME, ILS, MLS, NDB, VORTAC, TACAN) which are essential to support contingency operations of assigned forces during implementation of SCATANA. The appropriate military authority will, except under actual emergency air defense situations, insure that such air NAVAIDs within their area of responsibility remain in operation. If actual emergency air defense situations require shutdown of these air NAVAIDs, the appropriate military authority will immediately notify the respective commanders of unified and specified commands of the shutdown.

SECTION III. PROCEDURES FOR APPLICATION OF EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT)

A. SITUATION

Emergency conditions which threaten national security but do not warrant the declaration of Defense Emergency, Air Defense Emergency, or the control of air NAVAID’s.

B. INTENTION

To provide for the most effective use of airspace for defense and defense-supported activities in the affected area by:

1. Insuring that the position of all friendly air traffic is known and can be contacted by radio if necessary.

2. Controlling and limiting the density of air traffic operating in airspace critical to the conduct of air defense operations.

C. APPLICATION

1. The appropriate military authority will take the following actions:

a. Direct the Air Traffic Control Command Center (ATCCC) to apply ESCAT. In the event ATCCC cannot be reached or is unable to comply, ESCAT instructions should be passed directly to the affected ARTCC.

b. Specifically define the affected area.

c. Define the types of restrictions to be placed in effect. These may require the diverting and rerouting of traffic, the restricting of traffic to certain areas or corridors, and the initiating of a requirement to obtain a Security Control Authorization prior to takeoff.

d. Within NORAD, the region commander will advise CINCNORAD, who will then advise the Administrator, FAA, and the Defense Commissioner, FCC, that ESCAT has been applied. Outside NORAD, the appropriate military authority will advise the Administrator, FAA, and the Defense Commissioner, FCC, directly. When time is vital, notification may occur after ESCAT has been applied.

e. Direct the Air Traffic Control Command Center to ease or terminate restrictions as the tactical situation allows.

2. ARTCC’s will take the following actions when directed to apply ESCAT:

a. Disseminate ESCAT instructions and restrictions received to air traffic, civil and military air traffic control facilities, flight service stations, and other appropriate aeronautical facilities.

b. Impose the restrictions on air traffic as directed by the appropriate military authority. Restrict-
tions will apply to those NORAD Regions/Sectors which have implemented ESCAT. The restrictions will automatically include instructions for all VFR traffic within the affected area to land at the nearest suitable airport and file an IFR/DVFR flight plan.

3. Civil and military air traffic control facilities and other aeronautical facilities will disseminate to air traffic and aircraft operators and will implement those instructions and restrictions received from the ARTCC's. When an IFR or DVFR flight plan has been filed, it will be examined by the appropriate aeronautical facility to insure that it conforms with the ESCAT restrictions placed in effect by the appropriate military authority. When a flight plan does conform with the ESCAT restrictions, the appropriate aeronautical facility will grant a Security Control Authorization and the flight can then be given takeoff clearance. When a flight plan does not conform with the ESCAT restrictions, a Security Control Authorization will not be given and takeoff clearance will be denied.

4. The pilot in command will take the following actions when ESCAT is applied.

   a. If airborne, comply with the instructions issued by the appropriate aeronautical facility.
   b. If not airborne, file an IFR or DVFR flight plan prior to takeoff and comply with the instructions issued by the appropriate aeronautical facility.
   c. Aircraft which are not radio equipped may not file an IFR or DVFR flight plan and will not be permitted to operate in areas affected by ESCAT.

SECTION IV. PROCEDURES FOR IMPLEMENTATION OF SECURITY CONTROL OF AIR TRAFFIC AND AIR NAVIGATION AIDS (SCATANA)

A. SITUATION

Three types of situations may require the implementation of SCATANA.

1. An emergency has resulted in the declaration of an Air Defense Emergency within the NORAD area. Under this condition, SCATANA will be automatically implemented.

2. A NORAD Region/Sector commander may direct implementation of SCATANA for his Region/Sector when his Region/Sector or an adjacent Region/Sector is under attack and an Air Defense Emergency has not yet been declared.

3. An emergency has resulted in the declaration of a Defense Emergency outside the NORAD area. Under this condition, SCATANA may be considered for implementation.

B. INTENTION

To provide for the most effective use of airspace for defense and defense-supported activities by aircraft of civil and military agencies by:

1. Exercising security control of civil and military aircraft entering, departing, or moving within the U.S. areas and their coastal approaches.

2. Selectively limiting air traffic consistent with air defense requirements.

3. Exercising control over the following air navigation systems: VOR/DME, VORTAC, ILS, MLS, TACAN, and NDB.

C. IMPLEMENTATION

1. The appropriate military authority will take the following actions:

   a. Direct the Air Traffic Control Command Center to implement SCATANA. In the event ATCCC cannot be reached or is unable to comply, SCATANA instructions should be passed directly to the affected ARTCC.

   b. Specify what restrictions are to be implemented, such as:

      (1) Routing restrictions on flights entering or operating within appropriate portions of the defense area.

      (2) Restrictions for the volume of air traffic within the defense area using the WATPL (see Section V) and Security Control Authorizations.

      (3) Altitude limitations on flight operations in selected areas.

      (4) Special instructions concerning the control of navigation aids used for friendly aircraft operations. This includes continued operations, as long as the actual air defense situation permits, of those air NAVAID's essential to support other unified and specified command contingency operations.

      (5) Confirmation or modification of previous instructions which may have been implemented with the application of ESCAT.

   c. Revise or remove restrictions to the movement of air traffic and control of air navigation aids as the tactical situation permits.

2. ARTCC's will take the following actions when directed to implement SCATANA:

   a. Disseminate SCATANA implementation instructions to civil and military air traffic control facilities and other appropriate air traffic services facilities.

   b. Impose the restrictions on air traffic as directed by the appropriate military authority. Restrictions will apply to those NORAD Regions/Sectors which have implemented SCATANA. The restrictions will automatically include instructions for all VFR traffic within the affected area to land at the
nearest suitable airport and file an IFR or DVFR flight plan. Landing, diversion, or dispersal of traffic, when ordered, will be to airports outside metropolitan areas or likely target complexes whenever possible. Instructions will be passed over normal air/ground/air radio frequencies.

c. As directed by the appropriate military authority, implement the control of VOR/DME, ILS, MLS, VORTAC, NDB, and TACAN as follows:

(1) Shut down navigation aids in accordance with the military/FAA supplemental agreements. This will allow time to land/disperse airborne aircraft, and shall provide for the extension of such times when the air traffic situation dictates.

(2) Direct the control of air navigational aids to make sure that required aids, as indicated in flight plans, will be available for authorized aircraft flights.

d. When directed to reduce or remove SCATANA restrictions, authorize resumption of air traffic and operation of air navigation aids as specified by the appropriate military authority.

3. Civil and military air traffic control facilities and other appropriate aeronautilcal facilities will:

a. Maintain the current SCATANA action form for that facility at appropriate operating positions.

b. When SCATANA is implemented or terminated, take the action indicated on the facility's SCATANA action form.

c. Maintain current information on the status of restrictions imposed on air traffic.

d. Approve or disapprove filed flight plans in accordance with current instructions received from the ARTCC's. Approval will indicate that the flight is permitted under the WATPL priority currently in effect or that the flight has been granted a Security Control Authorization.

e. Forward flight plans and approval requests to the ARTCC as required.

f. Disseminate instructions and restrictions to air traffic as directed by the ARTCC's.

4. The pilot in command will comply with security control instructions as follows:

a. IFR flights—Comply with instructions received from the appropriate aeronautilcal facility.

b. VFR flights—Land at the nearest suitable airport when so directed.

c. Aircraft on the ground—File an IFR or DVFR flight plan with the proper FAA facility and receive approval prior to departure.

D. MOVEMENT OF TACTICAL AIR TRAFFIC

1. Tactical air traffic assigned a WATPL number of 1 or 2 will not be delayed, diverted, or rerouted by NORAD Region/Sector commanders. However, NORAD Region/Sector commanders may recommend that this traffic be rerouted to avoid battle or battle-threatened areas.

2. Air traffic assigned a WATPL number other than 1 or 2 may be delayed, diverted, or rerouted by the NORAD Region/Sector commander to prevent degradation of his area of the air defense system.

3. Aircraft being "recovered" will be expedited to home or alternate bases, and "search and rescue" aircraft expedited on their missions, but such aircraft may be diverted to avoid battle areas or takeoff may be delayed to prevent saturation of airspace.

4. Tactical air traffic will file IFR flight plans and comply with IFR procedures regardless of weather. The appropriate WATPL number will be entered in the Remarks section in the Aircraft Clearance Form DD 175. The WATPL number will be posted on ARTCC flight strips and passed with flight plan data from one ARTCC to the next and to the appropriate air defense control facilities.

5. For mass military operations, a single clearance form will be filed and Altitude Reservation flight plan (ALTRV) procedures will be applied.

6. Compliance with approved flight plan and position report requirements is important for identification. Aircraft aborting or deviating from an approved flight plan will airfile a revised flight plan as soon as the necessity for such deviation is evident. Unauthorized deviations may preclude identification and result in engagement by defensive weapons.

E. SPECIAL OPERATIONS

1. In areas that are not critical to air defense or in areas of poor or no radar coverage, the appropriate military authority may wish to authorize additional specific flights which may not qualify for a high enough priority under the WATPL. When SCATANA has been implemented, the appropriate military authority may authorize flights by granting a Security Control Authorization to the ARTCC or agency requesting the clearance.

2. The following flights may require the granting of a Security Control Authorization prior to takeoff:

a. Organized civil defense missions.

b. Disaster relief flights.

c. Agricultural and forest fire flights.

d. Border patrol flights.

e. SARDA and foreign flag civil carrier flights prior to WATPL Six.

SECTION V. WARTIME AIR TRAFFIC PRIORITY LIST (WATPL)

A. SITUATION
When SCATANA is implemented, a system of traffic priorities is required to make sure that optimum use is made of airspace, consistent with air defense requirements. This system will be the prime means of controlling the volume of air traffic. (The Security Control Authorization will be used as a supplement to WATPL.)

B. INTENTION

To establish a WATPL for the movement of air traffic when SCATANA has been implemented, and to provide policy guidance for the practical application of the system. Priorities shall take precedence in the order listed and subdivisions within priorities are equal.

C. WARTIME AIR TRAFFIC PRIORITY LIST

1. Priority One:
   a. The President of the United States, the Prime Minister of Canada, respective cabinet or staff members essential to national security, and other members as approved or designated by the Secretary of Defense.
   b. Anchor Annex Flights.
   c. Aircraft engaged in active continental defense missions. This includes interceptors, antisubmarine aircraft, and airborne warning and control aircraft.
   d. Retaliatory aircraft, including their direct support aircraft, executing EWO.
   e. Airborne command elements which provide backup to command and control systems for the combat forces.

2. Priority Two:
   a. Forces being deployed or in direct support of combat operations against the enemy to include the use of activated Civil Reserve Air Fleet (CRAF) aircraft, as necessary, and/or other U.S. and foreign flag civil air carrier aircraft under mission control of the U.S. military.
   b. SAC aircraft in direct and immediate support of EWO aircraft.
   c. Search and rescue aircraft operating in support of these activities.

3. Priority Three:
   a. Forces being deployed in support of combat operations against the enemy.
   b. Continental Airborne Reconnaissance for Damage Assessment (CARDA) missions for the support of immediate combat operations.
   c. Search and rescue aircraft not included in Priority Two.
   d. Flight inspection aircraft flights in connection with emergency restoration of airway and airport facilities in support of immediate combat operations.

4. Priority Four:
   a. Dispersal of tactical military aircraft.
   b. Dispersal of U.S. air carrier aircraft assigned to the War Air Service Program (WASP).
   c. Dispersal of U.S. civil air carrier aircraft allocated to the CRAF Program.
   d. Dispersal of FAA/DOD flight inspection aircraft.
   e. Dispersal of foreign civil air carrier aircraft in the U.S. in accordance with specific international agreements.
   f. Flight inspection activity in connection with airway and airport facilities.

5. Priority Five:
   a. The air transport of military commanders, their representatives, and DOD-sponsored key civilian personnel which is of importance to national security or which will have an immediate effect upon combat operations of the Armed Forces.
   b. Dispersal of non-tactical military aircraft for their protection.
   c. Public aircraft assigned to FAA and other Federal agencies.

6. Priority Six:
   a. Flight operations in accordance with approved Federal and State emergency plans; e.g., WASP and SARDA. Foreign civil air carrier flights will operate in accordance with specific international agreements.
   b. Other essential CARDA missions not included in 3b above.

7. Priority Seven. Other military flight operations.

8. Priority Eight. All other flight operations not specifically listed above.

D. POLICY FOR APPLICATION OF WATPL

1. The restrictions embodied in the WATPL will apply to all aircraft except those in receipt of a Security Control Authorization.

2. Priority will be dependent on the nature of the aircraft's mission. Operational test flights will take the priority of the mission aircraft tested.

3. The originator of an aircraft movement requirement will be responsible for determining and verifying the appropriate priority in accordance with the list described above.

4. The individual filing the flight plan will be responsible for including the priority number as determined by the originator of the requirement.

5. During general war conditions, situations may occur which cannot be related to the WATPL. Aircraft emergencies and inbound international flights which have reached the point of no return, including foreign air carrier flights en route to safe-haven airports in accordance with specific international agree-
ments, are examples of such situations. These incidents must be treated individually through coordination between ATC and appropriate military agencies in consideration of the urgency of the inflight situation and existing tactical military conditions.

6. During periods other than general war, aircraft movements are handled as follows:

a. Involvement in limited war or execution of contingency plans, to include JCS-directed actions, immediately makes successful completion of such action a primary national objective. Therefore, aircraft movements in support of these actions will be afforded expeditious handling by the ATC system commensurate with the degree of urgency stated by the DOD to the FAA. When directing the execution of a contingency/limited war plan, or other JCS-directed operation which is in pursuit of primary national objectives, the DOD will so advise the FAA (or appropriate Canadian authority if Canadian airspace is involved), requesting that aircraft operating in accordance with such plans be given priority handling over air traffic except active defense missions and launch of the strategic alert force and supporting aircraft. Should contingency, limited warfare, or other JCS-directed plans be executed concurrently by more than one operational commander, the JCS will state to the FAA (or appropriate Canadian authority when Canadian airspace is involved) and the military commanders concerned, the relative urgency of each operation and will resolve conflicts that may arise.

b. Assignment of reserved airspace to accommodate military air operations which, because of their objectives, cannot be conducted in accordance with routine ATC procedures will be based upon an order of precedence for the purpose of resolving mission conflicts in planning altitude reservations. This order of precedence is published in appropriate Joint Service Regulations and FAA documents.

7. Priorities for air traffic clearances required under the SCATANA Plan are not to be confused with civil priorities assigned to civil air carrier aircraft under the WASP priorities systems or to general aviation civil aircraft under the SARDA Plan. WASP and SARDA priorities are designed to provide for controlled use of civil aircraft capability and capacity, and they have secondary significance when the WATPL for the movement of aircraft is in effect.

SECTION VI. TACTICAL AIR MOVEMENT PLANS

A. SITUATION

In a situation when Emergency War Plans and other contingency plans are being implemented, the large volume of tactical air traffic generated is likely to result in conflicting requirements for the available airspace. It is obvious that such conflicts should be minimized in order to prevent saturation of the air defense system, yet permit the orderly execution of the various contingency plans. To this end, it is essential that responsible military commanders coordinate fully with the appropriate military authorities responsible for air defense to make sure that conflicting situations can be resolved while emergency plans are still under development. The provisions of this section do not apply to Strategic Air Command (SAC) Emergency War Orders (EWO’s) for which special coordination has been effected between SAC, NORAD, and FAA agencies.

B. INTENTION

To establish coordination procedures necessary to fulfill air defense and air traffic control requirements for the movement of tactical air traffic and identify specific air NAVAID’s which are essential to support contingency operations of major command forces during implementation of SCATANA.

C. EXECUTION

1. Commanders of unified and specified commands (Responsible Military Commanders) will insure that:

a. The air traffic movement sections of their Emergency War Plans (including dispersal/evacuation and other related contingency plans) and the specific air NAVAID’s essential to support contingency operations are fully coordinated during development with the appropriate military authority responsible for air defense. In the NORAD area of responsibility, the authority is the NORAD Region/Sector commander. When flights will transit more than one NORAD Region/Sector, coordination must be effected with all NORAD Region/Sector commanders involved.

b. Subsequent to the coordination required in the preceding paragraph, the air traffic movement section of their plans is to be provided to appropriate military and FAA regions. In the NORAD area of responsibility, the air movement section is to be provided to the commander of the NORAD Region/Sector in which the flights originate.

2. Responsible military authorities will:

a. During the coordination phase, insure that proposed aircraft movements do not conflict with other known movements or planned airspace utilization. Possible conflicts are to be resolved through negotiations with the commands involved.

b. On receipt of the tactical air movement section of the plan, review again their impact on the overall air situation and incorporate the information into the unit SCATANA Plan as supplements.
SECTION VII. TEST PROCEDURES

A. SITUATION

To insure ESCAT and SCATANA actions can be taken quickly, procedures for the notification of all action echelons, down to the lowest level, will be tested periodically.

B. INTENTION

1. To specify procedures that will allow the NORAD Region/Sector to determine the time required and assure the capability to notify all agencies/personnel, down to the lowest action level, that ESCAT/SCATANA has been implemented.
   a. Aircraft will not be grounded or diverted.
   b. Air navigation aids will not be shut down.
   c. Test messages will not be transmitted over air/ground/air radio frequencies.
   d. Radio communications will not be interrupted.

2. ESCAT Tests.
   a. For ESCAT application testing, the Region/Sector SCATANA officer will notify the Air Traffic Control Command Center using the following statement:

   "This is (NORAD Region/Sector) with a NORAD exercise message for (state exercise name). (Repeat) Simulate applying ESCAT for (specified area). ARTCCs acknowledge when appropriate agencies have been notified. This is an exercise message for (state exercise name)."

   b. ARTCCs will notify all appropriate civil and military air traffic control and aeronautical facilities. Upon completion of all actions, the completion times will be forwarded to the ATCCC.

3. SCATANA Tests.
   a. For SCATANA testing, the NORAD Region/Sector SCATANA officer will notify the Air Traffic Control Command Center using the following statement:

   "This is (Region/Sector) with a NORAD exercise message for (state exercise name). (Repeat) Simulate implementing SCATANA for (specified area). Priorities ( ) thru ( ). ATCCC acknowledge when appropriate agencies have been notified. This is an exercise message for (state exercise name)."

   b. ARTCCs will notify all appropriate civil and military air traffic control and aeronautical facilities. Upon completion of all actions, the completion times will be forwarded to the ATCCC.

   c. The ATCCC will provide completion times to the appropriate NORAD Region/Sector.

4. ESCAT or SCATANA will be tested periodically but at least semi-annually. Tests will normally be conducted in conjunction with a Headquarters NORAD or NORAD Region/Sector exercise. Additionally, tests may be conducted by individual NORAD Regions/Sectors when test objectives are local in nature, with prior coordination with the ATCCC. (No-notice FAA tests will be coordinated with the FAA region and ADLO).

5. Headquarters NORAD/NCOO will direct NORAD Regions/Sectors to implement ESCAT/SCATANA tests IAW test procedures above.

SECTION VIII. AUTHENTICATION

Authentication is not required between NORAD Region Operation Control Centers/Sector Operations Control Centers and the ATCCC for the implementation of SCATANA. However, if in the judgment of the ATCCC, a call back is necessary, implementation will be validated with a call back to the NORAD Region/Sector.

APPROVED:

(s) William M. Taft,
WILLIAM M. TAFT
Deputy Secretary of Defense

(s) Jim Burnley
JIM BURNLEY
Deputy Secretary of Transportation

(s) Minie Dawson
MINIE DAWSON
Defense Commissioner, Federal Communications Commission
Appendix 18.

SPEED AUTHORIZATION GRANTED TO DOD

May 18, 1978

Mr. Paul H. Riley
Alternate DOD Representative to FAA
Deputy Assistant Secretary of Defense
The Pentagon
Washington, D.C. 20330

Dear Mr. Riley:

Section 91.70(a) of the Federal Aviation Regulations (FAR) provides that, unless otherwise authorized by the Administrator of the Federal Aviation Administration (FAA), no person may operate an aircraft below 10,000 feet mean sea level (MSL) at an indicated airspeed of more than 250 knots.

The regulation grants an exception to aircraft having flight characteristics which preclude safe operation at speeds below 250 knots by providing that if the minimum safe airspeed for any particular operation is greater than the maximum speed prescribed, the aircraft may be operated at that minimum safe airspeed.

In recognition of the fact that certain military operational and training requirements cannot be met under the terms of the regulation, the Department of the Navy and the Department of the Air Force have been authorized since November, 1967, to operate aircraft below 10,000 feet MSL at an indicated airspeed of more than 250 knots to the extent such high-speed operations were necessary in the accomplishment of air combat maneuvers and tactics, low-level navigation, low-level reconnaissance and intercept, weapons delivery tactics, flight test and evaluation, undergraduate pilot training, actual or simulated alert missions, and other flight operations of a similar nature.

Our authorization of November 1967, to each service, was rescinded and reissued to the Department of Defense (DOD) on June 8, 1976. The June 1976 authorization was rescinded and reissued on February 25, 1977. The February 1977 authorization was rescinded and reissued on December 19, 1977. Provisions are now needed to accommodate military requirements while airspace actions are pending. Therefore, effective immediately, the December 19, 1977, authorization is rescinded and reissued as follows:

Operations below 10,000 feet MSL at an indicated airspeed in excess of 250 knots, in noncompliance with FAR 91.70(a), are authorized for military aircraft, including Reserve and Air National Guard components, only under the following conditions:

a. Within restricted areas.

b. Within military operations areas.

c. When operating within large scale exercises or on short term special missions. Coordination will be effected to insure awareness on the part of the nonparticipating flying public.

d. When operating on DOD/FAA mutually developed and published IFR routes. The military necessity for each route and for the extent of use of each route is to be reviewed and approved by the appropriate military headquarters.

e. When operating on DOD developed and published VFR routes. Such routes shall be established for specific missions and used only by designated units when the provisions of a. through d. above will not accommodate the required national defense mission as determined by appropriate military headquarters. Routes are to be developed and published in accordance with DOD/FAA mutually developed criteria.

f. In the event provisions of a. through e. cannot be complied with, the appropriate military headquarters may authorize flight operations within defined airspace in noncompliance with FAR 91.70 as it considers necessary to accomplish the national defense mission. This provision is intended to accommodate speed requirements on an interim basis within a defined area for which an area/route proposal has been coordinated and concurred in by appropriate military/FAA regional authority but not yet published.
g. If the airspeed required or recommended in the airplane flight manual to maintain safe maneuverability is greater than the maximum speed described in FAR 91.70, the aircraft may be operated at that speed. Where the required or recommended speed is given as range, the lower part of the speed range should be used consistent with good operating practice. This provision is primarily to accommodate climbs/descents and terminal area operations.

This authorization is effective immediately. Operations along VFR low altitude training routes (TR), which were established in accordance with FAA Handbook 7610.4C, Part 10, and in existence at the time of this authorization may be continued until January 1, 1979.

Sincerely,

(s) Raymond G. Belanger
RAYMOND G. BELANGER
Director, Air Traffic Service
BRIEFING GUIDE
## Table of Contents

<table>
<thead>
<tr>
<th>Paragraph Number</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–12–1</td>
<td>AUTHORIZATION FOR INTERCEPTOR OPERATIONS</td>
<td>3</td>
</tr>
<tr>
<td>4–12–2</td>
<td>CHANGING MILITARY OR ATC REQUIREMENTS</td>
<td>3</td>
</tr>
<tr>
<td>4–12–3</td>
<td>AUTHORIZATION AND USE OF AFIO</td>
<td>3</td>
</tr>
<tr>
<td>4–12–4</td>
<td>AFIO SUSPENSION</td>
<td>3</td>
</tr>
<tr>
<td>4–12–5</td>
<td>INFORMATION PROVIDED TO AIR TRAFFIC CONTROL</td>
<td>3</td>
</tr>
<tr>
<td>4–12–6</td>
<td>REQUEST FOR VERTICAL SEPARATION</td>
<td>3</td>
</tr>
<tr>
<td>4–12–9</td>
<td>INFORMATION PROVIDED THE ADCF</td>
<td>3</td>
</tr>
<tr>
<td>4–12–10</td>
<td>INTERCEPTOR RESPONSIBILITIES</td>
<td>3</td>
</tr>
<tr>
<td>12–4–1</td>
<td>“FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS</td>
<td>7</td>
</tr>
<tr>
<td>12–4–3</td>
<td>ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION</td>
<td>8</td>
</tr>
</tbody>
</table>
1. PARAGRAPH NUMBER AND TITLE:

4–12–1. AUTHORIZATION FOR INTERCEPTOR OPERATIONS
4–12–2. CHANGING MILITARY OR ATC REQUIREMENTS
4–12–3. AUTHORIZATION AND USE OF AFIO
4–12–4. AFIO SUSPENSION
4–12–5. INFORMATION PROVIDED TO AIR TRAFFIC CONTROL
4–12–6. REQUEST FOR VERTICAL SEPARATION
4–12–9. INFORMATION PROVIDED THE ADCF
4–12–10. INTERCEPTOR RESPONSIBILITIES

2. BACKGROUND: FAA Authorization for Intercept Operations (AFIO) has changed significantly since 9/11/01. NORAD’s focus has changed from primarily defending against external aerospace threats to also encompass internal aerospace threats.

3. CHANGE:

OLD

4–12–1. AUTHORIZATION FOR INTERCEPTOR OPERATIONS
The FAA AFIO, as published in Appendix 16, Federal Aviation Administration Authorization for Interceptor Operations, of this order, provides for the conduct of active air defense missions in the interest of the national defense when such missions cannot be conducted within the ATC system. ADCFs which are authorized to operate under the provisions of the AFIO are identified in Supplement 1 to the AFIO. (See Appendix 16.)

NEW

4–12–1. AUTHORIZATION FOR INTERCEPTOR OPERATIONS
The FAA AFIO, as published in Appendix 16, Memorandum of Understanding (MOU) Between the Federal Aviation Administration (FAA) and North American Aerospace Defense Command (NORAD) on Intercept Procedures, of this Order, provides for the conduct of active air defense intercept missions in the interest of the national security when such missions cannot be conducted within the ATC system.

OLD

4–12–2. CHANGING MILITARY OR ATC REQUIREMENTS
Changing military or ATC requirements and capabilities noted by ATC or NORAD personnel which would require notification, revision, or cancellation of the AFIO shall be brought to the attention of the military representative to the FAA region and Air Traffic Planning and Procedures Program, ATP–1.

NEW

4–12–2. CHANGING MILITARY OR ATC REQUIREMENTS
Changing military or ATC requirements and capabilities noted by ATC or NORAD personnel which would require notification, revision, or cancellation of the AFIO shall be brought to the attention of FAA Headquarters, ATP–200.

OLD

4–12–3. AUTHORIZATION AND USE OF AFIO
The AFIO is applicable only to those aircraft engaged solely for the purpose of performing an active air defense mission. AFIO shall not be used to intercept alert force evaluation aircraft. The military headquarters initiating the alert force evaluation will monitor the ADCF response to ensure that the Senior Director does not invoke the AFIO.

NEW

4–12–3. AUTHORIZATION AND USE OF AFIO
Authority is granted Commander in Chief, NORAD (CINCNORAD), to operate interceptors subject to the conditions and in compliance with the responsibilities and standard operating procedures set forth in this Section and Appendix 16. In cases where interceptors operate under AFIO and deviate from an ATC clearance, it must be emphasized that a National Security threat assessment dictates a higher assumed risk level so that a successful intercept occurs.
4-12-4. AFIO SUSPENSION

The Air Defense Liaison Officer (ADLO) may recommend suspension of the AFIO to ATP-1.

a. This action shall be taken only when an unsafe condition or practice is not or cannot be corrected and prompt action is not taken by the military.

b. Paragraph 1 of the AFIO prescribes the level of notification of suspension. Where safety of flight is concerned, suspension may occur prior to notification.

c. FAA Headquarters shall set forth local procedures to be followed as a result of the ADLO recommendation for AFIO suspension. These procedures do not require military approval but should be coordinated with the NORAD Region/Sector concerned to ensure mutual understanding.

4-12-5. INFORMATION PROVIDED TO AIR TRAFFIC CONTROL

ADCF shall provide the following to ATC facilities:

a. Immediately inform the ARTCC/CERAPs, and when appropriate, terminal area facilities, when control of interceptor aircraft will be conducted in accordance with the terms of the AFIO including the time and area in which the operation under the AFIO will take place.
b. Inform appropriate ATC facilities when the operation under the AFIO has been completed.

c. Inform ARTCC/CERAP personnel of the ADCF controlling interceptor aircraft.

d. Provide information concerning aircraft operating in Class A airspace under ADCF jurisdiction with transponders which are not functioning.

e. When requested by the FAA, a report will be submitted explaining the necessity for invoking the AFIO.

OLD

4–12–6. REQUEST FOR VERTICAL SEPARATION

When an ADCF initiates a request for a clearance for vertical rather than lateral separation for an aircraft operating under the AFIO, ATC shall do one of the following:

a. Issue a clearance which includes the altitude, route, and effective times of the clearance.

Add

b. Inform the ADCF if a clearance cannot be issued.

Add

NEW

4–12–6. AIR TRAFFIC CONTROL RESPONSIBILITIES

a. ATC facilities shall:

1. Provide ATC priority to interceptors engaged in an active air defense mission.

2. When interceptors are under ATC control, provide standard air traffic control services. Standard separation shall be applied.

3. Upon interceptor request and workload permitting, provide traffic information on other known aircraft that are between the interceptor and the TOI.

4. Provide the most direct clearance to the TOI.

NOTE— Unless otherwise informed, once the interceptors communicate the TOI is intercepted, ATC facilities should expect the interceptors to operate within a 5 mile radius and plus/minus 2 thousand feet vertical of the TOI.

5. Provide interceptors and ADCF with anticipated delays, restrictions, etc., which may affect mission success if unable to comply with provisions 1 thru 4.

b. When it is determined that operations within the ATC system will delay the intercept of a TOI affecting National Security, the competent military authority may declare “AFIO.” Upon declaring “AFIO,” NORAD assumes responsibility for interceptors seeing and avoiding all known aircraft and ensuring safe intercept conduct. ATC facilities will continue to provide the following air traffic services:

1. Traffic advisory services to the interceptors and all other affected aircraft, EXCLUDING the TOI.
Add

2. “Point out” information to affected ATC sectors and/or ATC facilities.

NOTE—

Interceptors deviating from ATC clearance may lose the positive radar separation normally provided between interceptors and all other aircraft.

Add
c. Except when air safety is the primary consideration, every precaution shall be taken to prevent the TOI from gaining knowledge that an intercept mission is being conducted.

Add
d. When requested by NORAD, ATC facilities shall provide documentation on delays/restrictions affecting mission success through FAA ATP–200 to CINCNORAD.

OLD

4–12–9. INFORMATION PROVIDED THE ADCF

ATC facilities shall, to the extent possible, provide to ADCF the following:

a. Traffic information on other known aircraft which will operate in proximity to intercept activities being conducted under the provisions of the AFIO.

NEW

4–12–9. ADCF RESPONSIBILITIES

a. ADCFs shall:

1. Comply with the ATC facilities notification requirements as outlined in FAAO 7610.4, Chapter 4, Section 11, Scramble/Airborne Orders.

2. Provide and/or confirm with ATC facilities the TOI location and/or the designated Combat Air Patrol (CAP) location the interceptors are proceeding to as soon as possible.

3. Establish and maintain two–way radio communications and radar identification of interceptors to the maximum extent possible within systems capabilities.

4. Within the NORAD chain–of–command, act as the competent military authority responsible for determining and invoking AFIO.

5. Immediately inform appropriate ATC facilities of interceptor deviations invoked under AFIO and ensure interceptor/ADCF intentions, including call signs, are passed to ATC.

6. Notify interceptors when AFIO is invoked.

b. When requested by the FAA, ADCFs shall provide documentation of AFIO invocation through CINCNORAD to FAA Headquarters.

Add

b. Inform the ADCF before clearing nonparticipating aircraft through ALTRVs provided for other aircraft.

Add
c. When requested, provide information on known traffic. Every effort shall be made to avoid disclosing the mission and extended route of NOPAR flights.
d. Provide information concerning known flights operating in Class A airspace without transponders.
e. Anticipated delays, restrictions, etc., pertinent to a mission.

OLD
Add
Add
Add
Add
Add
Add
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Add

NEW
4–12–10. INTERCEPTOR RESPONSIBILITIES

a. Interceptors shall:

1. Obtain an appropriate air traffic clearance prior to departure.

2. Adhere to the scramble procedures as contained in the appropriate letters of agreement unless otherwise cleared by ATC.

3. Maintain two–way communications with the appropriate Air Traffic Control facility.

4. Advise the controlling facility of adverse weather conditions affecting the intercept.

5. Comply with ATC facility instructions unless the competent military authority invokes AFIO.

(a) Inform appropriate ATC facilities when AFIO is invoked.

(b) Use all on board systems to maintain separation from other known aircraft.

6. Advise ATC when the TOI has been acquired by onboard systems and/or visual contact has been achieved.

7. Notify the ATC facility when the TOI has been intercepted (established within a 5 mile radius and plus/minus 2 thousand feet vertical of the TOI). Remain within this airspace or notify the ATC facility if unable to comply.

8. Ensure separation from the TOI.

9. Inform ATC of active air defense mission termination by stating “AFIO terminated” and revert to standard ATC procedures upon active air defense mission termination.

4. OPERATIONAL IMPACT: None.

1. PARAGRAPH NUMBER AND TITLE: 12–4–1. “FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS

2. BACKGROUND: FLYNET is being updated to accommodate today’s response team procedures for nuclear, biological, and chemical accidents.

3. CHANGE:

OLD
12–4–1. “FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS

NEW
12–4–1. “FLYNET” FLIGHTS, NUCLEAR EMERGENCY TEAMS
The Defense Nuclear Agency (DNA), a Department of Defense organization, and the Department of Energy have established Nuclear Emergency Teams throughout the United States. The code name “Flynet” indicates that an aircraft is transporting a Nuclear Emergency Team or a Disaster Response Team to an accident involving chemical agents or biological research materials. These teams are on call around-the-clock to proceed to any location within their areas of responsibility, and it is in the public interest that they reach their destination as rapidly as possible. The following procedures apply:

a. The code name “Flynet” will be included in the remarks portion of the flight plans. Civil as well as military aircraft will be used to airlift these teams.

4. OPERATIONAL IMPACT: None.

1. PARAGRAPH NUMBER AND TITLE: 12–4–3. ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION

2. BACKGROUND: The atmospheric sampling for nuclear contamination following a foreign weapons test is not the only sampling being done. The U.S. Air Force (USAF) and Department of Energy (DOE) conduct sampling both foreign and domestic. The new order will incorporate DOE while continuing to allow the USAF to conduct their mission. The order will also give the USAF the special handling within the national airspace system if need arises to conduct domestic sampling.

3. CHANGE:

OLD

12–4–3. ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION

Following a foreign nuclear weapons test, a planned aerial sampling schedule is established by the USAF. Although sampler aircraft are flight planned to the suspected atmospheric area of nuclear contamination, the aircraft are likely to require altitude and route changes which cannot be anticipated prior to departure. The purpose of these altitude and route changes is to permit direct contact and sampling of the “cloud” debris whose exact location and altitude distribution cannot be accurately predicted. To afford those operations optimum flexibility during profile, the following procedures are applicable:

a. Aircraft Identification. USAF aircraft engaged in aerial sampling missions shall use the call sign “SAMP” followed by the last three digits of the aircraft’s serial number; e.g., SAMP 36l, during voice communications and IFR flight plan filing.

NEW

12–4–3. ATMOSPHERIC SAMPLING FOR NUCLEAR CONTAMINATION

The USAF, Department of Energy (DOE), or other U.S. Government agencies perform aerial sampling of suspected foreign or domestic nuclear, chemical, or hazardous material contamination. Although sampler aircraft are flight planned to the potential or suspected atmospheric area of nuclear contamination, the aircraft are likely to require altitude and route changes which cannot be anticipated prior to departure. The purpose of these altitude and route changes is to permit direct contact and sampling of the “cloud” debris whose exact location and altitude distribution cannot be accurately predicted. To afford those operations optimum flexibility during profile, the following procedures are applicable:

a. Aircraft Identification. USAF, DOE, or U.S. Government aircraft engaged in aerial sampling missions shall use the call sign “SAMP” followed by the last three digits of the aircraft’s serial number; e.g., SAMP 36l, during voice communications and IFR flight plan filing.
b. USAF Technical Application Center (AFTAC) shall:

1. Advise the ATCSCC via telephone or teletype, of planned aerial sampling missions at least 4 hours prior to the proposed time of departure. The advanced information should consist of:

4. OPERATIONAL IMPACT: None.