

CHANGE

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

**JO 7610.14A
CHG 2**

Air Traffic Organization Policy

Effective Date:
July 9, 2026

SUBJ: Non-Sensitive Procedures and Requirements for Special Operations

- 1. Purpose of This Change.** This change transmits revised pages to Federal Aviation Administration Order JO 7610.14A, Non-Sensitive Procedures and Requirements for Special Operations, and the Briefing Guide.
- 2. Audience.** This change applies to all ATO personnel and anyone using ATO directives.
- 3. Where Can I Find This Change?** Information for access to this order is available on the MyFAA employee website at https://employees.faa.gov/tools_resources/orders_notices/ and on the air traffic publications website at http://www.faa.gov/air_traffic/publications.
- 4. Explanation of Policy Change.** 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 statements.
- 5. Distribution.** This change is distributed electronically to all who subscribed to receive email notifications through the FAA's website. All organizations are responsible for viewing, downloading, and subscribing to receive email notifications when changes occur to this order. Subscriptions to air traffic directives can be made through the Air Traffic Plans and Publications website at https://www.faa.gov/air_traffic/publications/ or directly via the following link: https://public.govdelivery.com/accounts/USAFAA/subscriber/new?topic_id=USAFAA_39.
- 6. Disposition of Transmittal.** Retain this transmittal until superseded by a new basic order.
- 7. Page Control Chart.** See the page control chart attachment.

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Explanation of Changes

Direct questions through appropriate facility/service center office staff to the Office of Primary Interest (OPI)

a. Editorial Changes

An editorial change replaces the term Center Radar Approach Control (CERAP) with Combined Control Facility (CCF) in multiple paragraphs.

b. Entire Publication

Additional editorial/format changes were made where necessary. Revision bars were not used because of the insignificant nature of these changes.

FAA Order 7610.14 Page Control Chart July 9, 2026

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Section 4. ATCAA and MOA Procedures

3-4-1. EXERCISE/ORI

a. To the extent practical, exercises and ORIs must 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 must advise the appropriate ARTCC/CCF/HCF(s) of the exercise/ORI objective, scenario, and execution date; and must ensure coordination is effected in sufficient time to establish arrival/departure procedures and 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 must ensure coordination is effected with the appropriate ARTCC/CCF/HCF(s) 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 must ensure the above coordination is coordinated with the appropriate ARTCC/CCF/HCF(s) 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.

3-4-2. 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/CCF/HCF(s).

Section 5. Air Mobility Command (AMC) Exercise/Operational Readiness Inspection (ORI)

3-5-1. ORI

The AMC project officer must coordinate with the air route traffic control center (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).

3-5-2. 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/CCF/HCF(s). ■

Section 6. United States Strategic Command (USSTRATCOM) Operational Readiness Inspection (ORI)

3-6-1. ORI BOOKLETS

The USSTRATCOM will provide current ORI Altitude Reservation Flight Plan books to appropriate air route traffic control center (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.

3-6-2. 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.
- d. Execution reference time ("ERT")—hour mission take-off time.

3-6-3. NOTIFICATION FORMAT

CARF must forward the ORI mission notification information to the required ARTCC/CCF/HCF(s) no later than 30 days prior to the departure date of the mission. The ARTCC/CCF/HCF(s) must be provided the current information, as provided by IGXP, NLT 15 days prior to the mission via the Aeronautical Fixed Telecommunications Network (AFTN) as follows:

- a. Mission name.
- b. Bomber call signs.
- c. Tanker call signs.
- d. "I" hour.
- e. "ERT" hour.

3-6-4. MISSION DELAYS

ORI missions will delay in 24-hour increments.

Section 7. Navy Shipboard Exercises

3-7-1. FLEET AREA CONTROL AND SURVEILLANCE FACILITIES (FACSFACs)

FACSFACs are Navy air traffic control facilities established to manage/schedule special use airspace (SUA), operating areas (OPAREAs), and off-shore airspace in support of air, surface and sub-surface operations. FACSFACs should be used as the point of contact for FAA activities with respect to Navy shipboard operations. Although each FACSFAC has location-specific responsibilities, they normally perform the following services:

- a. Scheduling, coordinating, and monitoring of surface, sub-surface and airborne units operating within and transiting between offshore OPAREAs and the National Airspace System (NAS).
- b. Scheduling and coordinating airborne units operating within assigned airspace of inland operating areas.
- c. Scheduling of military training routes (MTRs).
- d. Maintaining liaison with other controlling agencies, fleet commands, other military commands, FAA, Coast Guard, and selected state and federal agencies.
- e. Providing SUA control services to participating military units, other government aircraft, government contract aircraft, and, on a not-to-interfere basis, civil aircraft as delineated in letters of agreement with applicable FAA and military activities.
- f. Scheduling and coordinating associated commercial and military aircraft services support.
- g. Assistance during search and rescue (SAR) and medical evacuation (MEDEVAC).

3-7-2. FACSFAC LOCATIONS

Each FACSFAC is structured to meet the operational needs of a specific geographic area in direct support of fleet requirements. Facility location and associated areas of responsibility are as follows:

- a. FACSFAC San Diego, CA: responsible for NOCAL/SOCAL OPAREAs.
- b. FACSFAC Pearl Harbor, HI: responsible for Hawaiian/MIDPAC OPAREAs.
- c. FACSFAC Vacapes, VA: responsible for Narragansett, Atlantic City, Vacapes, and Cherry Point OPAREAs.
- d. FACSFAC Jacksonville, FL: responsible for Charleston, Jacksonville, Gulf of America, Caribbean, and Puerto Rico OPAREAs.

3-7-3. FLEET READINESS EXERCISES

The Navy must coordinate with the ARTCC/CCF/HCF(s) involved in the handling of aircraft operating from shore bases participating in fleet readiness exercises at least 30 days prior to the exercise.

3-7-4. PLANNING CONFERENCES

Planning conferences between the regional FACSFAC supporting Navy shipboard operations, the regional Navy representative (NAVREP) and the appropriate FAA activity should be held to review operation planning and execution. Emphasis should be placed on procedures for aircraft transiting the NAS to/from inland OPAREAs and target complexes. The following topics should also be discussed:

- a. Adherence to coordinated strike/launch sequence plans, published stereo routes and pre-coordinated flight plan routes.
- b. Adherence to filed instrument flight rules (IFR) flight plan call signs while transiting the NAS.

- c. Assignment of Mode 3 Identification Friend or Foe (IFF) codes for flight operations within the air defense identification zone (ADIZ).
- d. Coordination with other commercial, military, and civil agencies impacted by shipboard operations.
- e. Issuance of Notices to Mariners (NOTMARs) for hazardous operations.
- f. Notification procedures for completion of operations in altitude reservation (ALTRV)/SUA/range/target areas.
- g. Flexibility/contingency plans for unforeseen changes to planned operations.

3-7-5. AIRCRAFT CARRIER OPERATIONS

Regional FACSFACs are the communications link between FAA activities and aircraft carriers. Shipboard air operations personnel establish ship-to-shore communications with the regional FACSFAC (unless beyond communication range or if shipboard electronic emissions are restricted) to facilitate the conduct of aircraft carrier operations. If circumstances dictate, airborne carrier air wing aircraft (such as E-2 airborne early warning aircraft) can be used as “middle-man” to coordinate with the aircraft carrier. Typical aircraft carrier operations consist of:

- a. Cyclic operations consisting of numerous aircraft launching and recovering from the ship for extended periods of time.
- b. Carrier qualification/refresher training consisting of continuous flight operations for pilot proficiency that may require several aircraft to divert/bingo to a shore installation for minimum/emergency fuel or other emergency situations.
- c. ALPHA strike and amphibious assault exercises that require numerous aircraft to transit coastal routes to/from inland areas/target complexes.
- d. Air wing flyoffs consisting of numerous aircraft (approximately 50-70 aircraft) departing the ship en route to their home bases at the completion of the at-sea period.
- e. SAR and MEDEVAC missions.

3-7-6. FLYOFF PROCEDURES

Procedures for the coordination and handling of air wing flyoffs from aircraft carriers returning from deployments must be developed between appropriate FAA activities and the regional FACSFAC

3-7-7. AIR CAPABLE SHIP OPERATIONS

Air capable ships are naval vessels, such as destroyers, frigates, etc., that embark a helicopter detachment of one to three aircraft. Air capable ship operations consist of surveillance missions, logistical support flights, MEDEVAC missions, SAR support and passenger/cargo flights to/from shore installations in support of fleet operations. FACSFACs should be used as the point of contact for FAA activities with respect to air capable ship operations.

3-7-8. CENTRAL ALTITUDE RESERVATION FUNCTION (CARF) APPROVED ALTRVS

Exercises/operations requiring FAA CARF altitude reservations will normally be coordinated by FACSFAC in accordance with Chapter 4 of this order.

3-7-9. FAMILIARIZATION VISITS

Procedures must be developed to provide for liaison visits to the aircraft carrier by FAA personnel. Carrier air wing and shipboard air operations personnel must develop procedures to visit FAA activities.

Chapter 4. Altitude Reservation (ALTRV) Procedures

Section 1. General

4-1-1. 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.

4-1-2. POLICY

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

a. CARF or the appropriate ARTCC/CCF/HCF (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 must be classified as either moving or stationary.

1. A moving ALTRV encompasses en route activities and advances with the mission progress, i.e., the reservation moves with the aircraft or flight.

2. A stationary ALTRV encompasses activities within a fixed volume of airspace to be occupied for a specified time period.

3. The final approval authority is designated to the authority whose area of responsibility includes the departure airport. The final approval authority is responsible for the issuance of the final ALTRV approval.

NOTE-

When the ALTRV is for aerial refueling, the departure airport is usually determined by the receiver aircraft.

4-1-3. APPLICATION

An ALTRV may be employed under conditions normally prescribed for the mass movement of aircraft or other special user requirements that cannot otherwise be accomplished.

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

b. Unmanned aircraft system (UAS) operations within ALTRVs must operate in accordance with all applicable FAA regulations, including, if applicable, a written letter of authorization (LOA) and certificate of waiver or authorization (COA).

c. Stationary ALTRVs within oceanic and offshore airspace may encompass rocket, missile, and state activities. If multiple aircraft are expected to be in the ALTRV at the same time and military authority assumes responsibility for separation of aircraft (MARSAs) will not be used, separation procedures must be covered in an LOA.

NOTE-

State activities consist of DoD, DHS, law enforcement, and federal and state government agencies' aircraft.

NOTE-

Commercial space operations are examples of activity permitted in ALTRVs within oceanic and offshore airspace.

d. Stationary ALTRVs in airspace other than oceanic and offshore may be approved for state aircraft; activities covered in Section 7, Special/Emergency ALTRVs; and other activities covered by an LOA.

e. An ALTRV must not be used in lieu of other airspace expressly defined and designated for a special activity. This airspace must be coordinated in accordance with (IAW) FAA Order JO 7110.65, paragraph 9–3–4, Transiting Active SUA/ATCAA.

NOTE–

An ALTRV approval does not include approval to use special activity airspace. This airspace must be coordinated by the point of contact (POC) with the Using Agency IAW AP1A FLIP.

f. An ALTRV approval does not constitute authorization for chaff or electronic attack (EA) activities.

g. ALTRVs for single aircraft will not normally be approved, with the following exceptions:

1. The aircraft will join a tanker en route and conduct air refueling.
2. Operations above FL 600.
3. UAS with authorization.

h. Aircraft established on an approved ALTRV route and altitude must not be changed except in the interest of safety of flight. The ARTCC/CCF/HCF may cancel the entire ALTRV if the aircrew requests routing and/or altitude changes that are not in the approved ALTRV. Consideration will be given to the ALTRV when deviations are required.

i. An ALTRV APVL is valid in controlled airspace only.

j. Except within 180 NM of Bermuda, air refueling within New York Oceanic Airspace must be conducted on an approved ALTRV. Tankers joining receivers must be on an ALTRV to join/leave a receiver's ALTRV. Altitudes will normally be approved at or below FL 280. Both receivers and supporting tanker ALTRVs must begin at least 60 NM prior to entering and must continue at least 60 NM after leaving New York Oceanic Airspace.

k. Within Anchorage Oceanic Airspace, west of a line between 5340N 16800E to 4830N 17230E (approximately 430 NM from the Tokyo/Anchorage boundary), tankers joining or leaving a receiver ALTRV must be on an ALTRV.

l. Due to handoff and communication transfer, ALTRVs that transit international airspace must not begin, end, climb, descend, expand, compress, orbit, join, or leave on the boundary.

m. Moving ALTRVs that transit domestic airspace must not begin, end, climb, descend, expand, compress, orbit, join or leave on ARTCC boundaries.

4–1–4. ALTERNATE TRACKS

Circumstances occasionally dictate the need for submitting alternate refueling/special tracks to meet mission objectives. Although they may be filed on the same request, only the primary track must initially be approved. If the alternate track is needed and coordinated in a timely manner to process the change, the alternate track must be approved and the primary track canceled.

NOTE–

Depending on location and timing, coordination requirements may dictate up to 72–hour notice prior to departure time.

4–1–5. 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 that are using or that propose to use the ATC system must be afforded equitable consideration.

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

Section 2. Central Altitude Reservation Function (CARF)

4-2-1. INTERNATIONAL COORDINATION

Coordinate international altitude reservation (ALTRV) request with the appropriate foreign altitude reservation facilities in accordance with CARF letters of agreement. This includes missions that depart from points within a control area/flight information region (CTA/FIR) in which the United States is responsible for the provision of air traffic services and enters a CTA or FIR in which a foreign country is responsible for the provision of air traffic services.

NOTE-

Do not coordinate or approve classified missions that penetrate a CTA/FIR in which another country provides air traffic services, unless authorized in advance by the appropriate military authority. See subparagraph 4-10-1b.

4-2-2. APPROVAL AUTHORITY

a. CARF is authorized to approve an ALTRV in any CTA/FIR in which the United States is responsible for the provision of air traffic services, except in the territorial airspace of a foreign country, when authorized by the appropriate authorities of the foreign country:

1. FL 240 and above west of the 100th meridian.
2. FL 180 and above east of the 100th meridian.

b. CARF is the final approval authority for any ALTRV departing United States airspace which traverses or penetrates airspace outside a CTA/FIR in which the United States is responsible for the provision of air traffic services, regardless of the ALTRV location or start point.

4-2-3. ALTRV APPROVAL REQUEST (APREQ)

CARF must:

a. Transmit all ALTRV APREQs to the appropriate U.S. ARTCC/CCF/HCF and International Altitude Reservation Facilities as per letter of agreement and list those facilities in Item G of the ALTRV APREQ per section 10 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/CCF/HCFs prior to issuing an approval.
- c. When mission requirements or timeliness dictate, coordinate as needed by telephone, facsimile machine, or other electronic means.

NOTE-

The APREQ coordination requirement may be waived in a national 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 that 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.

g. Process all requests for ALTRVs in airspace above FL 600 in accordance with the provisions contained within this order for stationary and moving ALTRVs.

4-2-4. ALTRV APPROVAL (APVL)

CARF must be the final approval authority for any ALTRV departing a point within the United States CTA/FIR, regardless of the ALTRV start point, except as provided for in paragraph 4-3-2. CARF must:

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 U.S. ARTCC/CCF/HCF 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 U.S. ARTCC/CCF/HCF facilities.
2. International altitude reservation facilities, as appropriate.
3. Message originator.
4. Tanker support unit, when forwarding information is provided.
5. Other parties as requested in Item G of the ALTRV APREQ.

b. Provide the following information in Item G of the ALTRV APVL:

1. Location indicators of the recognized international altitude reservation facilities and U.S. 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.

4-2-5. NOTIFICATIONS

Disseminate ALTRV cancellations to impacted U.S. air traffic facilities and recognized international altitude reservation facilities as soon as practicable.

4-2-6. AIRSPACE NOT UNDER CARF JURISDICTION

Coordinate with the appropriate international altitude reservation facilities in accordance with the applicable letters of agreement to obtain approval for ALTRV APREQs encompassing airspace under such facilities' jurisdiction.

4-2-7. RESOLUTION OF CONFLICTS BETWEEN MISSIONS

Missions with higher precedence will be afforded priority over lower precedence 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 must not be divulged to anyone other than the designated trusted agents (see paragraph 4-3-7, Trusted Agents).

4-2-8. ISSUE ALTITUDE RESERVATION NOTICE TO AIRMEN (NOTAM)

CARF is responsible for the formulation and dissemination of Altitude Reservation NOTAMs for the portion of the ALTRV in the U.S. CTA/FIR that CARF is the approval authority (see paragraph 4-8-1, NOTAM Criteria).

Section 3. ATC Facility Responsibilities

4-3-1. APREQ REVIEW AND COORDINATION

- a. Review all altitude reservation (ALTRV) approval requests (APREQs) to ensure completeness, and advise Central Altitude Reservation Function (CARF) of any requested change to the ALTRV APREQ as soon as possible.
- b. Ensure that the required separation exists in accordance with (IAW) FAA Order JO 7110.65 between two or more missions departing within the ARTCC/CCF/HCF of origin up to the first cruising altitude requested. This coordination includes all ATC facilities to which airspace has been delegated.
- c. Schedule ATC-Assigned Airspace (ATCAAs) to allow ALTRVs to transit or utilize the airspace. If unable to schedule an ATCAA, provide alternate routing.

4-3-2. ARTCC/CCF/HCF APPROVED ALTRVs

Where practical and advantageous, an ARTCC/CCF/HCF 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/CCF/HCF areas of control jurisdiction. The ARTCC/CCF/HCF must:

- a. Assume the ALTRV APREQ responsibilities outlined in paragraph 4-2-3.
- b. Assume the ALTRV APVL responsibilities outlined in paragraph 4-2-4.
- c. Forward ALTRV APREQ/APVL to CARF for ALTRVs which will be conducted in airspace outlined in paragraph 4-2-2.
- d. 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.

NOTE-

ARTCC/CCF/HCFs 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 4-2-1, Canadian and Overseas).

4-3-3. MISSION SEPARATION

Ensure that required separation exists, to the altitudes specified in paragraph 4-3-1, APREQ Review and Coordination, between two or more missions departing within the U.S. ARTCC/CCF/HCF of origin.

4-3-4. FLIGHT PROGRESS STRIPS

Departure ARTCC/CCF/HCF must ensure unclassified ALTRVs are entered into the NAS computer in accordance with FAA Order JO 7110.65, Air Traffic Control; and FAA Order JO 7210.3, Facility Operation and Administration, paragraph 8-1-2, ALTRV Flight Data Processing, to display the required information on mission aircraft utilizing an ALTRV.

4-3-5. NOTIFICATION

- a. Forward departure times of ALTRV aircraft to the ALTRV approval authority and to all facilities concerned. Departure messages must include the departure time and identification of the following:
 1. Cell formation.
 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.

4-3-6. ISSUE ALTITUDE RESERVATION NOTAM

a. ARTCC/CCF/HCFs are responsible for the formulation and dissemination of an altitude reservation Notice to Airmen (NOTAM) for ALTRVs for which they are the final approval authority.

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

4-3-7. TRUSTED AGENTS

Each ARTCC/CCF/HCF must provide CARF a current listing of trusted agents, responsible for safeguarding and controlling COMSEC material, updated at least once per year, no later than March 1. If the list changes during the year, forward updates as needed.

4-3-8. ALTRV AUTHORIZATION AND CHANGES

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. Routing and altitude(s) of aircraft established on an approved ALTRV must not be changed except in the interest of safety of flight or as specified below:

a. Aircraft requested routing or altitude changes that are not in the approved ALTRV are handled in accordance with subparagraph 4-1-3i.

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

NOTE-

Due to critical military operational requirements (timing, refueling, locations, etc.) that necessitated the ALTRV, changes must be kept to the absolute minimum required for safety of flight or other extraordinary circumstances.

d. Multiple cells in an ALTRV are responsible for their own separation (MARSAs) 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 MARSAs between cells.

2. The ARTCC/CCF/HCF is responsible for returning the cell to the ALTRV as soon as practical and confirming re-establishment of MARSAs between cells.

Section 4. Mission Planning

4-4-1. RESOLVING MISSION CONFLICTS

During periods other than when the provisions of the Emergency Security Control of Air Traffic (ESCAT Plan 32 CFR part 245) are invoked, the order of precedence set forth in paragraph 4-4-2 below must be applied to all requests for altitude reservations (ALTRVs) for the purpose of resolving conflicts. Airspace assigned by ATC for the conduct of interceptor activity must be provided the same order of precedence class number as that applied to the ALTRV associated with the exercise or mission.

NOTE-

The ESCAT Air Traffic Priority List (EATPL) contained in the ESCAT Plan governs the movement of aircraft for airspace user requirements during time of tension and war.

4-4-2. 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 must assign the appropriate order of precedence class number in accordance with the listing contained herein.

b. 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 approval request (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, weather reconnaissance (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 when assigned Class Four precedence. 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 must be filed at least 15 days before proposed takeoff. It may be filed less than 15 days before proposed takeoff with Central Altitude Reservation Function (CARF) approval.

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

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

4-4-3. SPECIFY VOID TIME

Aircraft must depart within the assigned ALTRV APVL void for aircraft not airborne (AVANA) time for the purpose of providing separation between altitude reservations. Normal AVANA will be 1 hour.

4-4-4. 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/CCF/HCF.

4-4-5. DELAY NOTIFICATIONS

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

4-4-6. EN ROUTE TIMING

In a nonradar environment, unless otherwise stated in the ALTRV APVL, the pilot must 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

4-5-1. 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 must be accepted by each command unless notice is given to CARF that one command has accepted the responsibility for the other commands.

4-5-2. 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 must be accepted by each service unless notice is given to CARF that one service has accepted the responsibility for the other service(s).

4-5-3. MISSIONS REQUIRING EXTENSIVE ATC SUPPORT

Missions which originate on a Joint Chiefs of Staff or Service Headquarters level (USA, USN, USMC, USAF) and require extensive ATC support, must be initially coordinated with FAA Headquarters, ATO System Operations Security, 800 Independence Avenue, S.W., Washington, DC 20591.

4-5-4. PROJECT OFFICER

The originator of the ALTRV request must assign a project officer and an alternate project officer for each proposed ALTRV APREQ. These project officers must be thoroughly familiar with the requirements set forth in this chapter and available for coordination until the ALTRV completion or cancellation. Telephone numbers must be specified in Item G of the ALTRV APREQ in accordance with subparagraph 4-10-2h (2) and (3) of this chapter.

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

1. The ARTCC/CCF/HCF in whose area the flight originates to obtain acceptable departure procedures up to the first cruising altitude. Additional data must be provided in accordance with section 10 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, Service Area ATREP and/or military representative.

5. Air Traffic Control Spectrum Engineering Services for EA and chaff authorization, if applicable. (See subparagraph 4-1-3e of this chapter.)

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

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

d. The project officer must ensure the results of coordination efforts listed in subparagraphs 4-5-4a2, 3, and 5 above, are included in the remarks section, item G. of the APREQ under Additional Information. Refer to section 10 of this chapter for more details.

1. ARTCC/CCF/HCFs in which ALTRV is flight planned.

2. EA and chaff information, including EA and/or chaff authorization number, if applicable. (See subparagraph 4-1-3f.)

3. All individual flight plan from this point (IFPPF) routing and altitude information to the BEGIN ALTRV point and from the ALTRV termination point. Location, routing (IFPPF), 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 must 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 4–4–2, Order of Precedence. Proposed departure times of No–Notice missions must be included. If the ALTRV APREQ is to be submitted in accordance with Section 10 and Section 11 of this chapter, all mission aircraft, and other aircraft as deemed necessary by coordination between CARF and the project officer, must be included in the ALTRV APREQs.

f. The final approval authority will be determined in accordance with paragraphs 4–2–4, ALTRV Approval (APVL), and 4–3–2, ARTCC/CCF/HCF Approval ALTRVs. CARF/EUCARF/PACMARF and all U.S. ARTCC/CCF/HCF must 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 facility with whom CARF has a LOA.

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

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

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

4–5–5. 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 must coordinate with CARF.

4–5–6. NO – NOTICE AND/OR DO NOT PASS TO AIR DEFENSE RADAR (NOPAR) MISSION

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

a. Information concerning NOPAR missions must 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 must 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 must 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 must be added to the ALTRV APREQ immediately after “NOPAR.”

Section 7. Special/Emergency ALTRVs

4-7-1. INTERNATIONAL PRESIDENTIAL FLIGHTS

When requested, ALTRVs must 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 must arrange for ALTRVs for Presidential and Vice Presidential rescue support aircraft.

4-7-2. 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. Such ALTRV requests must be forwarded, with accompanying justification, to the David J. Hurley Air Traffic Control System Command Center, ATTN: Central Altitude Reservation Function, 3701 Macintosh Drive, Warrenton, Virginia 20187. A waiver will be issued by CARF if deemed appropriate.
- c. All originating units must process such requests through channels to the appropriate Command Headquarters for transmittal to CARF.

4-7-3. EMERGENCY ALTITUDE RESERVATIONS

CARF or an ARTCC/CCF/HCF 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/CCF/HCF approves an ALTRV under this paragraph, the following actions must be taken:

- a. The facility must advise CARF and other concerned ARTCC/CCF/HCFs of the approved ALTRV in detail by the most expedient means.
- b. Upon receipt of such notification, CARF must take immediate action to preclude possible conflict between ALTRVs previously approved by CARF and the emergency ALTRV.

Section 8. Altitude Reservation NOTAMs

4-8-1. CRITERIA

The issuance of an altitude reservation NOTAM, except as provided in subparagraph 4-8-2c, involving the U.S. control area/flight information region (CTA/FIR) must be governed by the following procedures:

- a. Issue an altitude reservation NOTAM for:
 1. All Stationary ALTRVs.

NOTE-

CARF, ARTCC, CCF, or HCF (whoever is the final approval authority) must issue the NOTAM.

EXAMPLE-

ZNY AIRSPACE DCC ANTARES NG-13 STNR ALT RESERVATION WI AN AREA DEFINED AS 3619N7240W TO 3537N7134W TO 3517N7214W TO 3536N7240W TO POINT OF ORIGIN AND WITHIN AN AREA DEFINED AS 2851N6257W TO 3056N6500W TO 2959N6635W TO 2740N6421W TO POINT OF ORIGIN SFC-UNL 2002142015-2002142215

2. Selected Moving ALTRVs, 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 must not be made to the type of activity within the ALTRV unless the originator has agreed to the publication of this information.

EXAMPLE-

ZNY AIRSPACE DCC ON CORONET EAST 037A LEG 3 MIL ACT ALONG THE ROUTE FM 4200N4000W TO 4200N4330W TO 4200N4500W TO 4200N5000W TO 4200N5300W TO 4200N5500W TO 4200N6000W TO 4125N6500W TO DOVEY TO ACK 15000FT-FL210 2002121354-2002122138

4-8-2. FORMULATION AND DISSEMINATION

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

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

- c. Altitude reservation NOTAMs must 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 10. Altitude Reservation Approval Request (ALTRV APREQ), Format, and Amendments

4-10-1. ALTRV APREQs

The originator must 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/CCF/HCF.

- 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.

4-10-2. 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 must 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 must 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, Elapsed 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).

1. 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 11, 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 must adhere to the guidelines outlined in subparagraphs 4-11-4a-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; “IFPPF”; and the point of departure.

EXAMPLE-

[JOIN JOE53 KC10/R IFPPF PHIK]

2. Elapsed 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 using the time elapsed from the departure point.

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 18,000 feet if required to set altimeter to 29.92.

EXAMPLE-

090 (indicates 9,000 feet)

FL190 (indicates Flight Level 190)

FL240B260 (indicates block altitudes of FL240 through FL260).

f. Item E. Destination: “E” followed by the four-letter ICAO location identifier.

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 the ALTRV end point as follows:

(a) Call sign.

(b) Location identifier for the destination.

3. When the destination is classified, indicate “ZZZZ”; do not include an elapsed time.

EXAMPLE-*E. PHNL**E. CLAN80,81 PHNL ZESTY12 PHNG**E. ZZZZ*

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

1. When timing begins upon departure, indicate the date time group of the estimated time of departure as follows:

(a) If a single cell 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 cell is departing, indicate the call sign for each cell, in the order of departure, followed by the date time group.

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

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

2. 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.

(d) “MITO” to indicate the minimum takeoff interval between departing aircraft in the group.

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

EXAMPLE-*F. ETD 020030 JAN 2005 ADMIS 01 AVANA**02013**F. ETD BONE11-16 020030 JAN 2005**ADMIS 30 SEC**BONE17,18 020100 FRMN**BONE19 020130 AVANA 020230**F. ETD SLIP31-36 151000 FEB 2005 ADMIS MITO AVANA 151100*

h. Item G, Remarks: “G” followed by:

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

2. “PROJECT OFFICER.” Include the name and telephone number of the project officer.

3. “ALTERNATE PROJECT OFFICER.” Include the name and telephone number of the alternate project officer.

4. “ADDITIONAL INFORMATION.” Include any remarks pertaining to the execution of the mission, for example:

(a) MARSA

NOTE-

A MARSA statement must be included if the aircraft will fly less than approved separation.

(b) NOPAR

(c) EA and chaff information, including authorization number, if applicable. (See subparagraph 4-5-4a5 in this chapter.)

(d) IFPPF routings. All individual flight plan information from this point (IFPPF), including routing and altitude information, to the BEGIN ALTRV point and from the ALTRV termination point. Also, location, routing (IFPPF), and procedures for airborne spares to drop out/exit the ALTRV, etc.

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

(f) Nonstandard Formation information in accordance with subparagraph 7-3-3b in this order; and FAA Order JO 7110.65, Air Traffic Control, paragraph 5-5-8, which addresses additional separation for formation flights.

5. "ARTCC." List the names of all ARTCC/CCF/HCF/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 4-2-2a in this chapter.)

EXAMPLE-

G. TAS: 430KTS CRUISE/AIRFL

G. TAS: 440KTS CRUISE 410KTS AIRFL

PROJECT OFFICER: CAPT SMITH DSN 555-5555/COMM 111-555-1111

ALTERNATE PROJECT OFFICER: CAPT JONES DSN

555-5556/COMM 111-555-2222 ADDITIONAL INFORMATION:

MARSA ALL BUSY LEADER OSCAR AIRCRAFT. ARTCC CONCERNED:

ZNY ZDC AR-E EUCARF REQUEST COPY OF ALTRV APVL BE SENT TO

438MAW MCGUIRE AFB NJ//DO

4-10-3. 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."

EXAMPLE-

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 2. Track Requirements

5-2-1. 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.

5-2-2. NAVIGATION ALONG AIR REFUELING TRACK

Navigation along an aerial refueling track must be accomplished using a combination of airborne equipment and NAVAIDs as appropriate.

NOTE-

Whatever the method of navigation, participating aircraft are expected to adhere to the course centerline during aerial refueling operations unless deviations within/beyond the track are specifically approved by the ARTCC/CCF/HCF, or are authorized in a procedural letter of agreement with the controlling agency.

5-2-3. ARIP ESTABLISHMENTS

The ARIP must be established:

- a. At a distance from the ARCP which must 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 aerial refueling operation is to be accomplished.
- c. Within the same ARTCC/CCF/HCF area as the ARCP whenever practical.
- d. So as to provide for a direct course between the ARIP and ARCP.

5-2-4. DEGREE – DISTANCE TRACK DEFINITION

- a. Tracks predicated on degree–distance track definition must provide:
 1. A means of navigation from the ARIP to the exit point via a usable NAVAID 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 NAVAID.
- b. Tracks located over water or in remote areas or beyond the range of fixed NAVAIDs must be predicated on geographical coordinate route definition with suitable navigation means provided by the user command.

5-2-5. TANKER ORBIT PATTERNS

The following describes typical orbit patterns for jet aircraft and turboprop/conventional type aircraft.

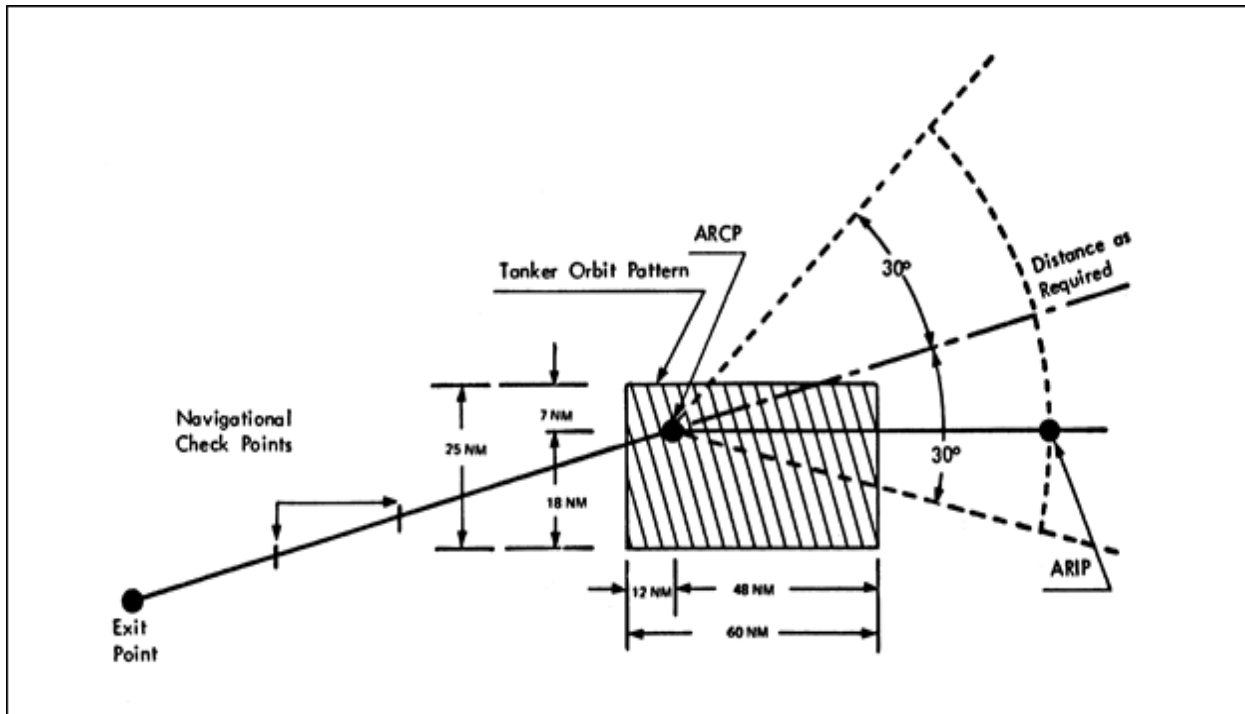
a. Turbojet – Normally, a rectangle 60 NM long (48 NM uptrack and 12 NM downtrack from ARCP or anchor point) and 25 NM wide, oriented longitudinally along the ARIP–ARCP or anchor point segment of the track so as to provide 7 NM of airspace on the non–holding side of the refueling track and 18 NM of airspace on the holding side. This pattern will normally be designed for left turns. When right turns are used, the orientation of the orbit pattern will shift accordingly. (See FIG 5-2-1, Components of a Typical Turbojet Aerial Refueling Track.)

b. 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 will normally be designed for left turns. When right turns are used, the orientation of the orbit pattern will shift accordingly. (See FIG 5–2–2, Components of a Typical Turboprop Aerial Refueling Track.)

NOTE–

Tankers are NOT automatically cleared to the IP; they must request clearance from the box to the IP if that airspace is desired.

**FIG 5–2–1
Components of a Typical Turbojet Aerial Refueling Track**



Section 3. Anchor Requirements

5-3-1. DESCRIPTION

a. The standard aerial refueling anchor track 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 track is determined based on the inbound course to the anchor point. Four turn points are designated to describe the anchor track. (See FIG 5-3-1.)

NOTE-

An anchor track 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 the anchor area.

b. The standard anchor area consists of one or more entry points, an ARIP, anchor point, anchor track 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.

5-3-2. NAVIGATION WITHIN ANCHOR AREA

Anchor refueling must take place along the published anchor track unless otherwise coordinated with the ARTCC/CCF/HCF or through a letter of agreement with the controlling agency. Navigation must be accomplished predicated on one of the following:

NOTE-

Clearance into an anchor area does not give aircraft on the anchor track the ATC assigned airspace (ATCAA) that may be associated with the anchor area.

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.

5-3-3. ARIP ESTABLISHMENT

The anchor ARIP must 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 track.

b. So as to provide for straight-line navigation from the ARIP to the anchor point leg at the uptrack end of the anchor track.

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.

5-3-4. DEGREE – DISTANCE ANCHOR DEFINITION

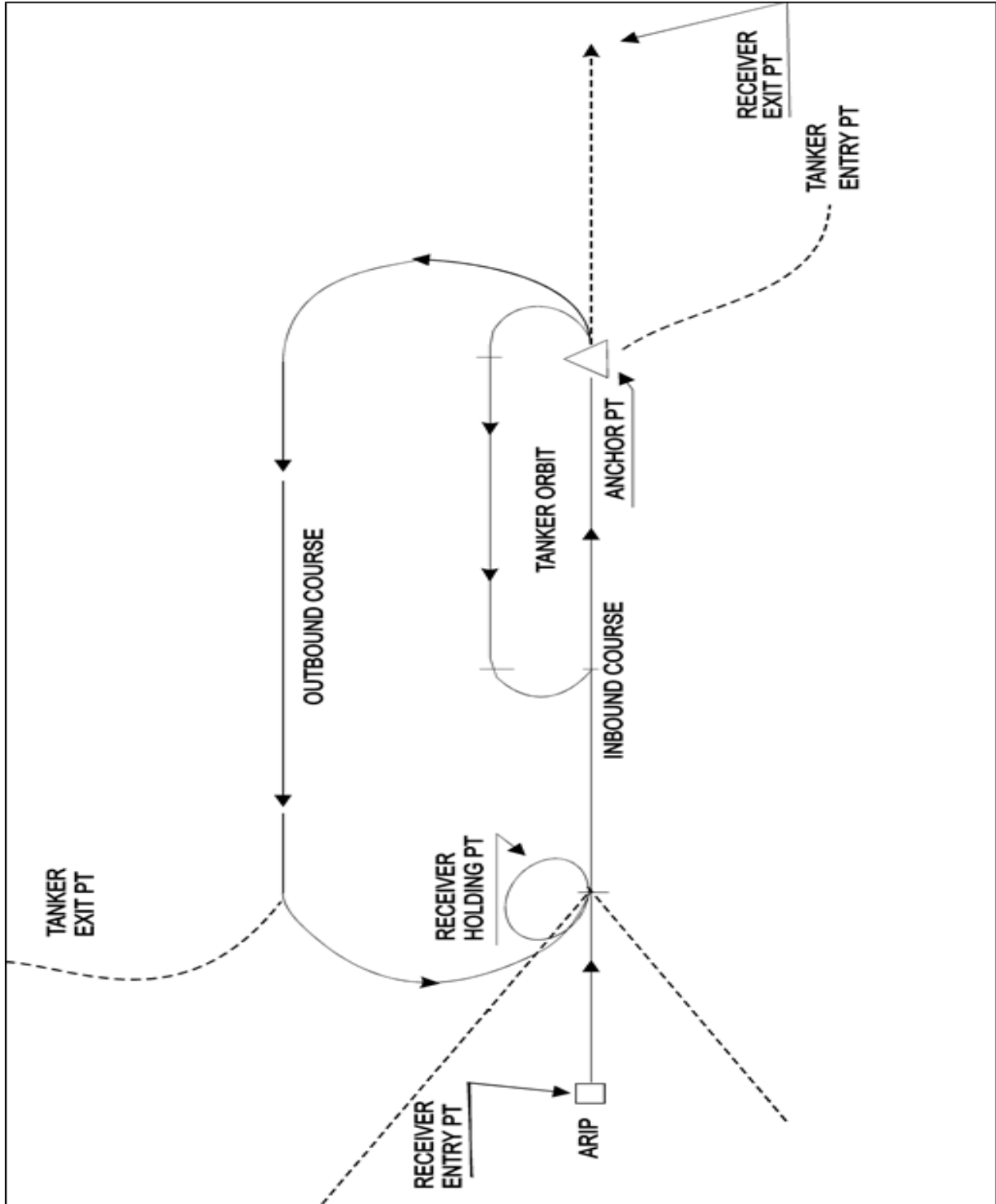
Anchors predicated on degree-distance definition must provide:

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 over water or in remote areas or beyond the range of fixed NAVAIDS must be predicated on geographical coordinate route definition with suitable navigation means provided by the user command.

FIG 5-3-1
Anchor Track



Section 4. Planning

5-4-1. TRACK/ANCHOR PROPOSALS

Proposals for establishing refueling tracks or anchors must be submitted in the format and with the data depicted in FIG 5-4-1 to the appropriate ARTCC/CCF/HCF with a copy to the appropriate Service Area military representative.

5-4-2. COORDINATION

a. The ARTCC that received the request for establishment of an aerial refueling track or anchor must assume the responsibility for FAA internal coordination, as necessary.

b. In the event the proposed track/anchor lies within special use airspace (SUA) or ATC assigned airspace (ATCAA), the using agency, if different from the requesting unit, must provide written assurances to the appropriate FAA office that aerial refueling operations will not conflict with other activities being conducted. Correspondence accompanying the initial proposal for refueling track/anchor must include the written assurance.

5-4-3. 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 with airspace jurisdiction.

d. Tracks/anchors must 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 must 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 aerial refueling operations, an activation request must accompany the initial request for aerial refueling operations.

f. The scheduling agency for the ATCAA must ensure that pilots comply with the procedures in the applicable 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 must 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, the appropriate ARTCCs/CCFs/HCFs are expected to evaluate existing tracks for feasibility 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 must be vertically separated by 2,000 feet and each track must be designated by a separate number.

5. Each published track description must 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.

5-4-4. APPROVAL NOTIFICATION

After receiving concurrence from all impacted ARTCCs/CCFs/HCFs for an aerial refueling track or anchor, the ARTCC/CCF/HCF in which the AR track is initiated must forward the Aerial Refueling Track/Anchor Proposal (See FIG 5-4-1). This includes all information required in FIG 5-4-1 and any other pertinent information to the appropriate air traffic Service Area office and military representatives.

5-4-5. PUBLICATION IN FLIP

After final coordination the military representative assigned to the FAA Service Area office must forward the following information to the National Geospatial-Intelligence Agency (NGA) for publication:

a. For tracks:

1. Number – The originator of the track/anchor must obtain a route designator for use during coordination from NGA Aeronautical Help Desk via telephone (DSN 846-1636 or commercial 1-877-817-9134) or email (aerohelp@nga.mil) The number in the designator provided by NGA will be prefixed by an “X”; for example, 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 or coordinate values.

3. ARCP – Degree-distance or coordinate values.

4. Navigation check points – Degree-distance or coordinate values.

5. Exit point – Degree-distance or coordinate values.

6. Communications/Rendezvous Plan – Obtain from 618 AOC/XOPM, 402 Scott Dr., Unit 2K1, Scott AFB, Illinois 62225 (commercial (618) 256-8511 or DSN 576-8511) by the Service Area 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 or coordinate values.

4. ARIP(s) – Degree-distance or coordinate values.

5. Exit – Degree-distance or coordinate values.

6. Anchor pattern (four turn points) – Degree-distance or coordinate values.

Section 5. Operations

5-5-1. 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 aerial 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 aerial 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 contained within MOA/ATCAA/joint-use restricted areas by establishment 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/CCF/HCF will be advised prior to commencing aerial refueling operations.

2. When special tracks/anchors must be established, the command processing the receiver aircraft must ensure compliance with the provisions set forth in Section 6 of this chapter.

c. All aerial refueling operations must be conducted on an IFR flight plan at assigned altitudes/flight levels except as provided for in paragraph 5-6-12, Flight Plan Requirements, of this chapter.

d. 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 aerial refueling operations. If additional altitudes are required to satisfy requirements, prior clearance must be obtained from the appropriate ATC facility.

NOTE-

Additional altitudes must 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.

5-5-2. USER REQUIREMENTS

a. The user command requesting the establishment of a track/anchor must assign to a specific unit the responsibility for scheduling all refueling operations on the track or anchor. The scheduling unit must review the track/anchor for utilization to determine the need for retention.

- b. FAA or theater command headquarters, as appropriate, must assign responsibility to a specific air traffic facility for coordinating aerial refueling operations with the scheduling unit for each track/anchor.
- c. Intermediate commands must be responsible for developing standardized procedures for use by these units in scheduling aerial refueling operations.
- d. Any unit planning to conduct aerial refueling operations must coordinate each operation with the unit assigned the responsibility for scheduling the track/anchor.

5-5-3. MARSА APPLICABILITY FOR AERIAL REFUELING

- a. MARSА begins between the tanker and receiver(s) when the tanker advises ATC that it is accepting MARSА.
- b. After MARSА has been declared, controller assigned course or altitude changes prior to rendezvous completion will automatically void MARSА and are to be avoided.
- c. Once rendezvous is completed:
 - 1. Headings and altitudes assignments may be made with the tanker concurrence with MARSА remaining in effect.
 - 2. Each tanker must keep receiver(s) aircraft in either standard or nonstandard formation until further ATC clearances are received and approved separation is achieved.
 - 3. Other nonparticipating aircraft may be cleared through the refueling block airspace with approved separation once the tanker and receiver(s) have proceeded down track.
- d. MARSА ends between the tanker and receiver(s) when:
 - 1. The tanker and receiver aircraft are vertically separated within the aerial refueling airspace,
 - 2. Approved separation is established, and
 - 3. ATC advises MARSА is terminated.

5-5-4. CRITERIA FOR SCHEDULING

- a. Scheduling criteria to ensure adequate airspace for aircraft conducting aerial refueling on tracks must be as follows:
 - 1. Simultaneous refueling in the same direction:
 - (a) Authorized for single tracks. A 2,000-foot altitude separation must be provided between assigned altitude blocks/airspace.
 - (b) Authorized for parallel tracks which have 30 NM separation between centerlines. Refueling operations may be accomplished on each track at the same altitudes. Multiple refueling may be accomplished on each track if the altitude separation required for single tracks is provided.
 - 2. Simultaneous refueling in opposite directions:
 - (a) Not authorized on single tracks.
 - (b) May be authorized between single AR tracks, which are vertically separated by a minimum of 2,000 feet between altitude blocks.

NOTE-

The opposite direction procedure is not intended to apply to all aerial refueling tracks, due to airspace configuration, traffic volume, etc. However, ARTCC/CCF/HCFs are expected to evaluate individual tracks for applicability upon request. The processing of approved requests must be in accordance with the existing procedures in Section 4 of this chapter.

2. Be depicted on DoD FLIP AP/1B charts.

NOTE–

Following MAJCOM/TYCOM and FAA approval (reference paragraph 6–4–7, NGA Responsibilities), the Service Area military representative will forward the route description to NGA for publication in FLIP.

3. Be depicted on appropriate aeronautical charts.

NOTE–

The Air Traffic Service Area office in whose area the route originates is responsible for submitting the route description for publication. A charting request must be submitted to the FAA Aeronautical Information Services, Aeronautical Data website at https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/.

5–6–10. REFUELING TRACK DEFINITION

a. Track width – In all cases, the refueling track must 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 must be as follows:

1. Track widths must 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 must 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.

5–6–11. OPERATING PROCEDURES

a. The requesting unit must notify the tie-in FSS in advance of any planned unpublished aerial refueling track activity that has been approved by the appropriate ATC facility.

b. Appropriate ATC facilities (en route and terminals), wherein radio and radar coverage exist along the VFR track, must provide radar advisory service (reference FAA Order JO 7110.65, Air Traffic Control) to tanker aircraft.

c. Upon notification of an unpublished aerial refueling track activity, the tie-in FSS must transmit a NOTAM/D in accordance with FAA Order 7930.2, Notice to Airmen (NOTAM).

d. FSSs must include pertinent VFR refueling activity in pilot briefings in accordance with FAA Order JO 7110.10, Flight Services.

5–6–12. 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 FSS and BASEOPS. Stereo flight plans could be an advantage in flight planning.

5-6-13. WEATHER MINIMUMS

Operations on VFR refueling tracks must be conducted only when the weather is at or above VFR minimums.

5-6-14. ADHERENCE TO REFUELING TRACK

Pilots operating on VFR refueling tracks must be responsible for remaining within the lateral and vertical confines of the VFR refueling tracks.

5-6-15. FAA COORDINATION

a. Proposals for establishing VFR refueling tracks must be submitted in the format and with the data depicted in FIG 5-4-1 to the appropriate ARTCC/CCF/HCF with a copy to the appropriate Service Area military representative. In those airspace areas not under the direct jurisdiction of FAA, the theater command headquarters must develop procedures for coordination and approval of proposed tracks and anchors.

b. The ARTCC/CCF/HCF which received the request for establishment of an aerial refueling track must assume the responsibility for FAA internal coordination as necessary. Following ARTCC/CCF/HCF 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 Service Area military representative for final review, coordination, and publication.

c. The Air Traffic Service Area office must review each proposed VFR helicopter refueling route and coordinate it with other interested FAA Service Area offices. The Service Area review will include a determination that the proposed VFR refueling tracks are consistent with the criteria contained in this part. Terminal ATC 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.

5-6-16. PUBLICATION/SCHEDULING

The military must designate a scheduling activity for each VFR refueling track. (See paragraph 3-2-1, Requirement.)

Chapter 6. Military Training Routes (MTR)

Section 1. General

6-1-1. PURPOSE

This chapter prescribes policy, criteria, administrative, and operating procedures pertaining to routes for military training/research, development, test and evaluation (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.

6-1-2. POLICY

The policy concerning military operations in excess of 250 KIAS below 10,000 feet MSL is specified in the Speed Authorization Granted to DoD. (See Appendix 4).

6-1-3. DEVIATIONS

a. The FAA Service Area office 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 Speed Authorization Granted to DoD. (See Appendix 4).

b. Approved deviations from this chapter must be fully coordinated and must contain provisions to ensure an appropriate level of safety. Copies of approved deviations must be forwarded to FAA Headquarters, Mission Support Services, Airspace Rules and Regulations Team, by the originating FAA Service Area.

6-1-4. PUBLICATION

MTRs must be published as follows:

a. IFR En Route Low Altitude Chart – This chart depicts all IRs and those VRs that accommodate operations above 1,500 feet (AGL).

b. 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.

c. DoD Flight Information Publication (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.

6-1-5. RECORD OF MILITARY TRAINING ROUTE (MTR) OPERATIONS

a. The Scheduling Activity responsible for activating an MTR must maintain a record of all MTR operations for the preceding calendar year.

1. The record of MTR operations must include the date, route, and aircraft information for each operation.

2. The record of MTR operations must be made available to the FAA Service Area upon request.

3. The FAA Service Area will review the record of MTR operations as needed.

b. ARTCC/CCF/HCFs must maintain MTR operational records as required in FAA Order JO 7210.3, Chapter 9, Facility Statistical Data, Reports, and Forms; Section 1, Operational Count Data.

6-1-6. FAA FORM 7110-4, MILITARY TRAINING ROUTE DATA

a. FAA Form 7110-4, Military Training Route Data, must be used for all requested proposed/revised Military Training Routes (MTRs) in accordance with the procedures in this chapter.

b. FAA Form 7110-4 is located on the MyFAA employee website at https://employees.faa.gov/tools_resources/forms/index.cfm/go/document.information/documentID/181590 and the FAA Aeronautical Information Services (AIS), Aeronautical Data website at https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/Data_Forms/.

Section 4. IR Route Definition

6-4-1. ROUTE WIDTH

Widths of route segments are determined by the military. The route width will be sufficient to contain all planned activities.

6-4-2. ROUTE ALIGNMENT

Route alignment criteria must be as follows:

a. All IRs to be flown at or 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 must 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 B, C, and D 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.

6-4-3. ALTITUDES

a. Altitudes must be established for each route segment. Routes must 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 must be established by the military. Altitude information must be reflected on FAA Form 7110-4 (see FIG 6-5-2 for sample form) as follows:

REFERENCE-

FAA Order JO 7610.14, Para 6-1-6, FAA Form 7110-4, Military Training Route Data.

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 must 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 must 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 must contain an altitude that is suitable for flight in IMC and can be used in the event of an aircraft systems failure. This altitude must 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

must 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 must 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 must be within an area of ATC radio coverage. When it is determined that ATC impact or other constraints preclude the exit fix altitude from 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.

6-4-4. RE-ENTRY SEGMENTS

Consistent with ATC capabilities, routes may have re-entry segments. To the extent practicable, re-entry segments should avoid ARTCC/CCF/HCF boundaries.

6-4-5. 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 must be considered modifications to the basic/principal route and may be described and designated as alternate routes.

c. Any alternate route segments must meet all of the requirements pertinent to the establishment of new routes.

6-4-6. ROUTE REPORTING POINTS

a. Unless otherwise specified in the letter of agreement, the National Flight Data Digest (NFDD), and the DoD FLIP AP/1B route description, exit points must be mandatory reporting points.

b. Other mandatory reporting points may be established for ATC purposes. These must be kept to those absolutely essential in providing approved separation between the route user and other IFR traffic. These points must be specified in the letter of agreement, as appropriate, and the route description.

6-4-7. SPECIAL OPERATING PROCEDURES

Special operating procedures may be imposed, but must 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 restrictions must 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 must be included in the letter of agreement governing the use of the route.

6-4-8. LOW ALTITUDE AIR-TO-AIR TRAINING (LOWAT)

a. LOWAT must be accomplished only on IRs specifically designated for this purpose.

b. The provisions for an equivalent level of safety for LOWAT training must be contained in a letter of agreement between the ARTCC/CCF/HCF and the military unit.

c. LOWAT maneuvers are not “classical intercepts,” 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 maneuvers conducted on IRs must be limited to:

Section 5. IR Coordination

6-5-1. ESTABLISHING OR REVISING IR 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 must be documented in writing and become a part of the route proposal.

b. All route requests or route amendments developed by the originating unit must be submitted on FAA Form 7110-4 (see FIG 6-5-2 for sample form). A letter of transmittal must 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 designation, and originating activity. Select “Modify” in the Action box.

REFERENCE-

FAA Order JO 7610.14, Para 6-1-6, FAA Form 7110-4, Military Training Route Data.

c. All route proposals must be illustrated on a current sectional chart (not required for revisions that do not effect route alignment) with routes depicted as follows:

1. Routes must be depicted by lines defining the route widths.

2. Altitudes must be depicted along each route segment and expressed in hundreds of feet AGL or MSL as appropriate. Altitude blocks or ranges must be indicated by separating the altitudes with a “B” for blocks or a dash “-” for ranges. (Refer to paragraph 6-4-3, Altitudes.)

3. Each point/fix, including turn points, must be identified in degrees, minutes, and seconds to the nearest tenth of a second, by sequential alphabetical lettering in accordance with the direction of flight.

d. The originating unit must coordinate the route proposal with other affected military organizations.

e. The ARTCC/CCF/HCF in whose area the route originates must be the focal point and coordinate with other ATC facilities.

f. A listing of all personnel and organizations coordinated with must become a part of the route proposal.

g. Once the ARTCC/CCF/HCF has concurred with an IR proposal, subsequent changes must be re-coordinated with the ARTCC/CCF/HCF and documented regardless of the level at which the change was made.

h. Prior to submission for publication, the military must 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/CCF/HCF proponent agreement has been reached, proposals must 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 must request assistance from the appropriate military headquarters and the FAA Service Area military representative. A resolution must then be sought at a meeting attended by the proponent, the ATC facilities involved, military major/type command headquarters representatives, the FAA Service Area, and the military representatives. Should a resolution not be achieved, the military headquarters representatives may authorize the proponent to proceed with processing of a VR proposal in lieu of the disagreed IR.

k. FAA Service Area Review action: IR proposals must be forwarded to the military representative at the FAA Service Area in which the routes originate. The IR proposal(s) must include copies of all environmental

documentation supporting the proposal and the major/type command headquarters' environmental certification addressed in paragraph 6-5-1.i. above. The military representative must review the proposals for compliance with this criteria, coordinate with other military service representatives, and then submit them to the FAA Service Area office.

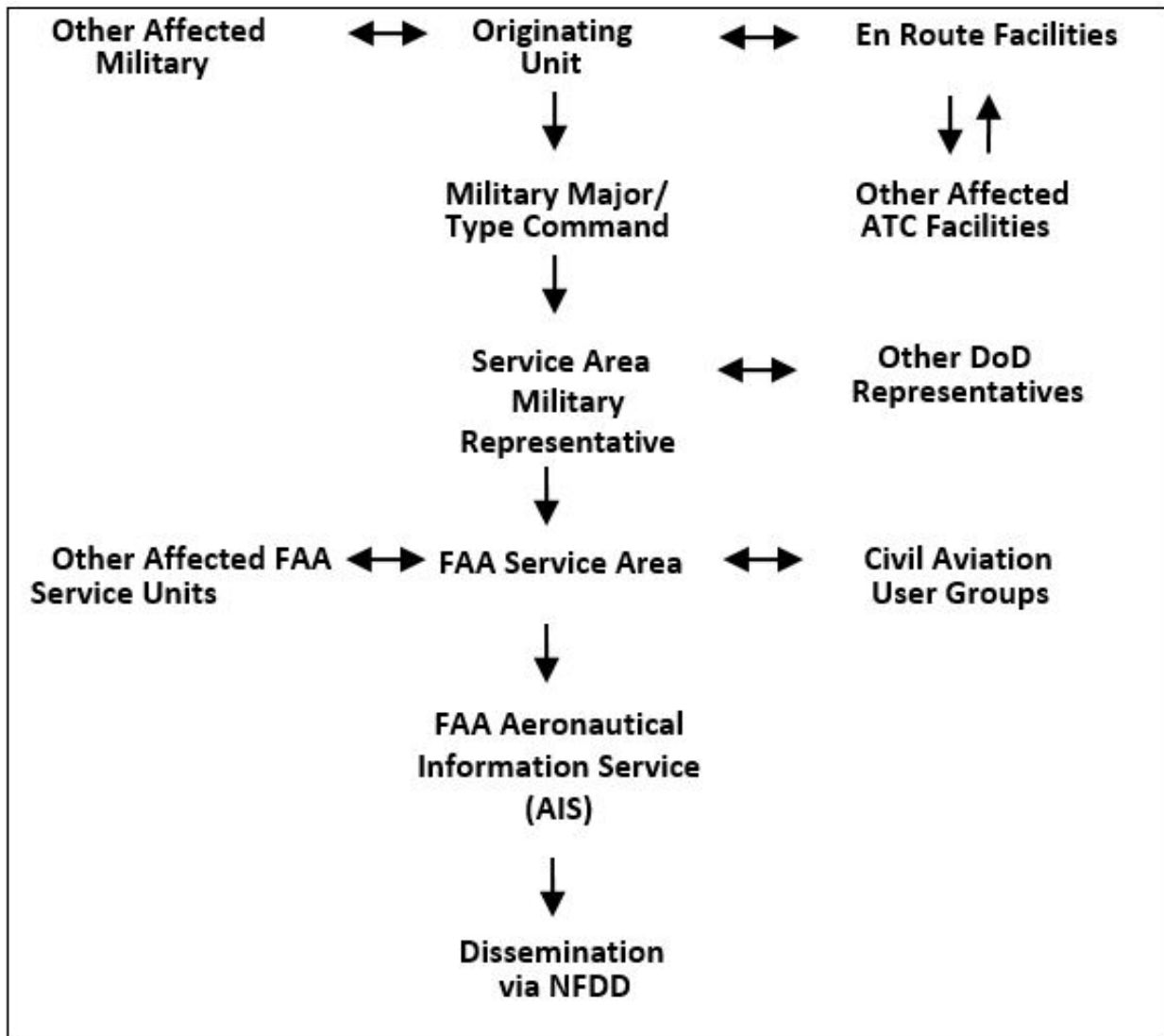
i. The FAA Service Area must:

- 1.** Coordinate all proposals with other interested FAA Service Units.
- 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 Service Area military representative, in writing, within 45 days of receipt of the original proposal.

m. The FAA Service Area office is the final approval authority for all IR proposals/revisions.

n. The block diagram below represents the normal coordination flow of a proposed IR.

FIG 6-5-1
Normal Coordination Flow of a Proposed IR



6-5-2. PUBLICATION

a. The FAA Service Area office in whose area the route originates must submit the approved FAA Form 7110-4 containing the route descriptive data to FAA Aeronautical Information Services (AIS), Aeronautical Data website at https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/, at least 58 days prior to the requested/required airspace effective date. Send a copy to the appropriate Service Area military representative.

1. AIS must issue the official, complete route description via the National Flight Data Digest (NFDD). It must 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, must be the official source of MTR descriptions for military users. It must be published in the same format as FAA Form 7110-4.

b. ARTCC/CCF/HCFs must review IR data published in the NFDD for accuracy and inform the appropriate FAA Service Area office whenever a disparity exists between that which was agreed to and that which was published.

c. The military is responsible for submitting IR data for publication in the DoD FLIP AP/1B booklet in accordance with DoD FLIP GP, Chapter 11. Military originating activities must review IR data published in the DoD FLIP AP/1B and AP/3 booklets and charts for accuracy and inform the appropriate Service Area military representative whenever a disparity exists between that which was submitted and that which was published.

d. Military originating activities and ARTCC/CCF/HCFs must 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.

6-5-3. EFFECTIVE DATE

a. New routes are effective upon the Aeronautical Information Regulation and Control (AIRAC) date published in the National Flight Data Digest (NFDD) and the DoD FLIP Area Planning booklets, AP/1B or AP/3, as appropriate.

b. Revisions to existing routes are effective upon the AIRAC date published in the NFDD and the DoD FLIP Area Planning booklets, AP/1B or AP/3, and issued as a Flight Data Center (FDC) NOTAM.

FIG 6-5-2

FAA Form 7110-4, Military Training Route Data; and Instructions

This form must be completed by federal government employees only.

Instructions for Completing FAA Form 7110-4, Military Training Route Data

Administrative Details. Provide as follows:

- 1. Originating Activity (required).** Enter the designation, address, and DSN and/or commercial phone number(s) for the Originating Activity or check "No Change" box if unchanged from original submission of the MTR.
- 2. Scheduling Activity.** If the Scheduling Activity is different from the Originating Activity, enter the designation, address, and DSN and/or commercial phone number(s) for the Scheduling Activity. If the Scheduling Activity is the same as the Originating Activity, check the "Same as Originator" box. If unchanged from original submission of the MTR, check the "No Change" box.
- 3. Route Designation (required).** Enter the VR or IR route number as assigned by the Service Center Military Representative.
- 4. Action (required).** Select Establish, Modify, or Cancel from the drop-down list to identify the action for this MTR.
- 5. Hours of Operation.** Enter the operational times of the MTR in hours using local or Coordinated Universal Time (UTC); and/or days. Other descriptive terms may also be entered (e.g., By NOTAM; Continuous; Daylight Hours). If unchanged from original submission of the MTR, check the "No Change" box.
- 6. Effective Date.** Enter the effective date of the intended DOD FLIP AP/1B in which the MTR will be published. Unless a specific publication date for the MTR is needed, check the "Next Available Charting Date" box.

Route Description. Provide a complete description of the route including all of the various tracks as follows:

Exception: If unchanged from original submission of the MTR, check the "No Change" box.

- 1. Basic Route Description.** The route from the en route altitude to the MTR and return to en route altitude.
 - a. Enter altitude(s) for each route segment, the letter of all action points, NAVAID identification (if entered), 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 lines, altitude(s), points, NAVAID (if entered), 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 lines, altitude(s), points, NAVAID (if entered), and latitude/longitude data.
 - c. Enter applicable 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 lines, altitudes, points, NAVAID (if entered), and latitude/longitude data.
 - c. Enter applicable communications and reporting procedures in the altitude data column.

Section 6. IR Route Use

6-6-1. SCHEDULING

a. Each IR route must 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 must be designated. All flights on the IR route will be scheduled through the primary or alternate scheduling agency.

b. The scheduling agency must confirm the planned utilization of the route with the appropriate ATC facility(ies) at least 2 hours prior to use, unless otherwise agreed to in an LOA. The scheduling agency must cancel requests as soon as practical when it is determined that the route will not be used.

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.

6-6-2. LETTERS OF AGREEMENT – IR

a. A letter of agreement, when required, must be concluded between the military scheduling activity and the ARTCC/CCF/HCF in whose area the IR originates. This ARTCC/CCF/HCF 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, must 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 must 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.

6-6-3. ADVISORY AND OPERATIONAL STATUS MESSAGES

When requested by the scheduling activity, ATC may relay advisory/operational messages to participating aircraft.

6-6-4. FLIGHT PLAN REQUIREMENTS

a. All IR operations must be conducted on IFR flight plans or approved altitude reservations.

b. Unless otherwise agreed to, flight plans must 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.

EXAMPLE-

TNP355020.IR252.PKE107012

2. Routes having re-entries for a single Electronic Scoring Site (ESS) must 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 must 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 (FRD)

(Primary)

(FRD) IR240A+R2 (FRD)

(Alternate)

5. Remarks.

(a) The remarks portion of a flight plan containing an IR must 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 must 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.

Section 2. USAF Undergraduate Flying Training (UFT)/Pilot Instructor Training (PIT)/Introduction to Fighter Fundamentals

7-2-1. DEFINITIONS

The term UFT includes:

- a. Flight Screening Program (FSP).
- b. Undergraduate Pilot Training/Specialized Undergraduate Pilot Training (UPT/SUPT).
- c. Euro-NATO Joint Jet Pilot Training (ENJJPT).
- d. Specialized Undergraduate Navigator Training (SUNT).

7-2-2. KEY OPERATIONAL CONSTRAINTS

a. Sortie Duration: 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 JO 7110.65, Air Traffic Control). Solo student requests for deviations are time-critical and air traffic control must 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 must 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.

7-2-3. RADAR SERVICE REQUIREMENTS

a. Air traffic control facilities must 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 must be provided IFR separation service.

c. A minimum number of sorties must be flown VFR in accordance with the syllabus training requirements. VFR advisory service must be provided to these flights to the extent practicable.

7-2-4. MERGING TARGET VS APPROVED SEPARATION

Application of merging target procedures must be outlined in a letter of agreement between the controlling agency and the using agency. UFT/PIT/Introduction to Fighter Fundamentals aircraft must be provided approved

separation until established in the MOA/ATCAA. Once established within the MOA/ATCAA, these flights may be provided merging target procedures.

7-2-5. AIRSPACE REQUIREMENTS

Below 18,000 feet MSL, training areas must be contained within MOAs. In Class A Airspace, training areas must 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 must be segregated by sterilized block times.

a. NAVAID definition: Individual T-1, T-6, and T-38 training areas must 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 must be adjusted only when necessary and letters of agreement are revised. T-6 training areas must provide a minimum of 100 square nautical miles of usable airspace. T-38 and T-1 training areas must provide a minimum of 200 square nautical miles of usable airspace.

c. Altitude blocks. As a minimum:

1. T-6 training areas must 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 must extend above FL 240 at least 4,000 feet and low areas must extend at least 12,000 feet below FL 240.

3. T-1 high altitude training areas must extend above FL 240 at least 4,000 feet and low areas must 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: 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 area than SUPT. As a minimum:

(a) T-6: (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 training areas must be within 60 NM of the main base. T-38 and T-1 training areas must be within 100 NM of the main base.

f. Segregation: T-6 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/CCF/HCFs and FSSs in and around the training areas are aware of the activity in the local area and must give the appropriate advisories to civil pilots when contacted.

7-2-6. MTR REQUIREMENTS

UPT/SUPT operations require access to at least six MTRs. Each UPT/SUPT wing must have at least four of these routes.

7-2-7. 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 must be streamlined to limit interruptions and avoid derogation of the training mission.

Section 4. Special Interest Flights

7-4-1. GENERAL

a. State Department designated special interest flights (SIF) are defined as flight operations in U.S. territorial airspace by any of the following:

1. Aircraft registered in a U.S. State Department designated special interest country;
2. Aircraft designated as a state aircraft by a State Department designated special interest country;

3. Aircraft operating with the ICAO three-letter designator (call sign) assigned to a company or entity in a State Department designated special interest country. SIF operators certified for U.S. commercial operations under 14 CFR part 129 do not require authorized flight routings. Non-Part 129 SIFs require FAA route authorization prior to flight and route monitoring during flight in U.S. territorial airspace.

4. Any foreign aircraft to which SIF procedures are applied following 14 CFR section 99.7, Special Security Instructions.

NOTE-

Current special interest countries and Part 129 operators are listed under the Countries section of the General Information posted on the FAA SIF website. Access to the FAA SIF website (<http://aspm.faa.gov/sif>) is for United States and Canadian Government agencies only. Contact the FAA System Operations Support Center (SOSC) (commercial 202-267-8115, fax 202-267-9208, or email 9-ATOR-HQ-RT-REQ@faa.gov) for website access information and authorization or for any comments or questions regarding the General Information available through the link at the bottom of the FAA SIF website Planned Flights page.

b. Prior to proposed non-Part 129 SIF takeoff time, the SOSC must post the routing authorization on the FAA SIF website. If the FAA SIF website is inaccessible, or when the routing is approved less than 6 hours before the proposed takeoff time, the SOSC must pass the routing information to the System Operations Security Domestic Events Network (DEN) Air Traffic Security Coordinators (ATSC), and the concerned ARTCC/CCF/HCF/ATCTs via fax, email, or electronic message; and verbal notification (if less than 6 hours before the proposed takeoff time).

1. For planning purposes, the SOSC routes non-Part 129 SIF aircraft on ARTCC/CCF/HCF-preferred routing to the maximum extent possible. Otherwise, non-Part 129 SIF aircraft are routed on published airways when practicable.

NOTE-

Deviations from non-Part 129 SIF routings are allowed when approved by System Operations Security and the procedures are contained in Standard Operating Procedures or a Letter of Agreement.

2. The SOSC must email or fax approved non-Part 129 SIF routing authorizations to the flight operators. ARTCC/CCF/HCF/ATCTs may contact the SOSC if courtesy copies of routing authorizations are desired.

c. For resolution of non-Part 129 SIF routing or procedural issues prior to flight, ARTCC/CCF/HCF/ATCTs must contact the SOSC directly at 202-267-8115. The SOSC must resolve routing issues and reissue routing authorizations as required. ATC facilities must not issue a clearance to aircraft until all routing issues have been resolved. SIF procedural issues regarding this order must be referred to Strategic Operations Security.

d. The Washington Operations Center Complex (WOCC), DEN, and National Capital Region Coordination Center (NCRCC) must relay all calls regarding the status or processing of non-Part 129 SIF routing authorizations to the SOSC directly at 202-267-8115.

e. For resolution of issues concerning any SIF operation in progress, ARTCC/CCF/HCF/ATCTs must contact the DEN ATSC at (540) 422-4423/4424/4425.

7-4-2. APPLICATION

a. The air traffic manager must ensure controllers are aware of expected non-Part 129 SIF authorized flight routings. Approved routings for non-Part 129 SIF aircraft must be confirmed on the FAA SIF website. If there

is no routing for a non-Part 129 SIF flight on the website, do not issue a clearance to the aircraft, and contact the SOSC in accordance with paragraph 7-4-1.

b. Controller-initiated deviations to non-Part 129 SIF authorized flight routings through United States territorial airspace are permissible for safety of flight reasons only. Facilities must report controller-initiated routing deviations as soon as possible to the DEN ATSC. Weather-related deviations that are requested by non-Part 129 SIF pilots must be coordinated through the DEN as soon as possible.

NOTE-

Vectoring non-Part 129 SIF arrivals and departures for preferred routings is authorized and is not a DEN reporting event.

c. Pilot-initiated deviations from non-Part 129 SIF authorized flight routings (except for weather) are not permissible. Controllers will request that non-Part 129 SIF aircraft return to approved route/reroute of flight whenever deviations are noted and immediately report deviations to the DEN ATSC.

d. The DEN ATSC must ensure the appropriate NORAD Air Defense Sector, U.S. Customs and Border Protection (CBP)/Air Marine Operations Center (AMOC), and WOCC are alerted and that procedures in chapter 7 of FAA Order JO 7610.4 (Sensitive Procedures and Requirements for Special Operations) are followed when any of these conditions occur involving any SIF aircraft:

REFERENCE-

FAA Order JO 7610.4, Chapter 7, Procedures for Handling Suspicious Flight Situations and Hijacked Aircraft

- 1.** The aircraft refuses to comply with any authorized message.
- 2.** Communication with the aircraft is established, but the aircraft identification cannot be immediately correlated with a known flight plan. (Attempt flight plan correlation when time permits.)
- 3.** The aircraft deviates from its approved route of flight and refuses to return to it when so requested.
- 4.** The aircraft refuses a reroute when so cleared or deviates from its reroute and refuses to return to it when requested.
- 5.** The aircraft makes an emergency or unscheduled landing in the United States.

Chapter 8. Military Radar Unit Duties, Responsibilities, and Procedures

Section 1. General

8-1-1. MILITARY RADAR UNIT (MRU)/AIRBORNE RADAR UNIT (ARU)/AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)

MRU/ARU/AWACS are not commissioned ATC facilities. Therefore, they must not be authorized nor requested to provide ATC services. Military command and control functions, including traffic advisories, will be provided to participating military/military contract aircraft operating within activated Airspace. The activated Airspace will be released to the MRU by the appropriate ATC facility, as identified in FAA Order JO 7400.10, Special Use Airspace, and in accordance with Letters of Agreement (LOA).

NOTE-

The pilot in command is responsible to ensure that their operation is contained within the assigned ATCAA/SUA and must maintain last ATC assigned altitude and route of flight until entering active ATCAA/SUA.

8-1-2. MILITARY RADAR UNIT (MRU)

An MRU may be used for radar monitoring in planned exercises or daily training under the following conditions:

- a. The MRU will assist aircraft under its jurisdiction to remain within the ATCAA/SUA released to the unit by ATC.
- b. The use of an MRU and the associated ATCAA/SUA must be fully coordinated with the affected ATC facilities.
- c. Radar correlation checks and two-way communication with ATC must be accomplished prior to providing services in released airspace.

NOTE-

Radar correlation checks are accomplished daily unless there is a change in equipment status.

8-1-3. AIRBORNE RADAR UNIT (ARU)

An ARU may be used for radar monitoring or as an extension of an MRU in planned exercises or daily training under the following conditions:

- a. The ARU will assist aircraft under its jurisdiction to remain within the ATCAA/SUA released to the unit by ATC through the MRU.
- b. The use of an ARU and the associated ATCAA/SUA must be fully coordinated between the MRU and the affected ATC facilities.
- c. Radar correlation checks and two-way communication with the MRU must be accomplished by ARU crew prior to providing services in airspace released to ARU.

8-1-4. 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 will assist aircraft under its jurisdiction to remain within the airspace released to the unit by ATC.
- b. The use of the AWACS and the associated ATCAA/SUA 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.

8-1-5. ADDITIONAL AWACS RESPONSIBILITIES

In addition to the responsibilities specified in paragraph 8-1-4, 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 must 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/ARU must be fully coordinated through 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. In the event of dynamic AWACS mission changes the ATC facility(s) may allow AWACS to coordinate MRU/ARU operations inside of the 4 day coordination window.

d. Radar correlation must be accomplished by AWACS crew prior to providing services in airspace released to AWACS. The following procedures apply:

1. AWACS radar will conduct an 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 must notify the appropriate ARTCC/CCF/HCF 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 must be required prior to resumption as a MRU.

e. Scrambles must 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. AAMS information will not be provided to the AWACS mission crew by the ARTCC/CCF/HCF.

8-1-6. TACTICAL MONITOR (TM)

An MRU/ARU/AWACS may be used as a TM in planned exercises or daily training under the following conditions:

a. Responsibility for the ATC released airspace lies with the military aircraft that scheduled and are flying within the SUA/ATCAA. These aircraft must comply with Autonomous Operations for air traffic control purposes while in the SUA/ATCAA.

b. TMs do not accept responsibility for SUA/ATCAA.

c. TMs will provide necessary tactical information/guidance for the military aircraft operating in SUA/ATCAA to complete mission training.

8-1-7. TRANSFER OF FLIGHT INFORMATION

The MRU/ARUs will not be involved in the transfer of control of aircraft to/from an ATC facility. Transfer of flight information must be accomplished directly between the MRU/ARU and the appropriate ATC facility as specified in a letter of agreement.

Section 2. Intercept Training Activities

8-2-1. AREA OF OPERATION

Intercept training activities, except for NORAD/USINDOPACOM air defense exercises/evaluations, must 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 must display transponder codes as assigned by ATC at all times unless otherwise coordinated.
- c. Transponder-off operations must not be conducted except as authorized in an FAA Headquarters approved exemption to 14 CFR section 91.215.

8-2-2. RADAR SURVEILLANCE

- a. Intercept training activities must 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 workload 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.

Appendix 1. Abbreviations

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

Abbreviation	Meaning
ACC	Air Combat Command
ADCF	Air Defense Control Facility
ADIZ	Air Defense Identification Zone
ADLO	Air Defense Liaison Officer
ADMIS (number)	Aircraft Departing at (number of minutes/seconds) Intervals
ADS	Air Defense Sector
ADS-B	Automatic Dependent Surveillance-Broadcast
AIM	Aeronautical Information Manual
AIP	Aeronautical Information Publication
AIRFL	Air Refuel or Aerial Refueling
ALTRV	Altitude Reservation
ALTRV APVL	Altitude Reservation Approval
AMC	Air Mobility Command
ANG	Air National Guard
ANR	Alaskan NORAD Region
AOC	Aircraft Operations Center (NOAA)
APREQ	Approval Request
APVL	Approval
ARCP	Air Refueling Control Point
ARCT	Air Refueling Control Time
ARIP	Air Refueling Initial Point
ARTCC	Air Route Traffic Control Center
ARU	Airborne Radar Unit
ASR	Airport Surveillance Radar
ATC	Air Traffic Control
ATCAA	ATC Assigned Airspace
ATCSCC	Air Traffic Control System Command Center
ATM	Air Traffic Management
ATM	Air Traffic Manager
ATREP	FAA Air Traffic Representative
ATSC	Air Traffic Security Coordinator
AVANA (UTC)	ALTRV Approval Void for Aircraft Not Airborne by (time)
AWACS	Airborne Warning and Control System
BNDD	Bounded

Abbreviation	Meaning
BR	Branch Route
C2	Command and Control
CARCAH	Chief, Aerial Reconnaissance Coordination, All Hurricanes
CARF	Central Altitude Reservation Function
CBP	Customs Border Protection
CCF	Combined Control Facility
CEDAR	Comprehensive Electronic Data Analysis and Reporting Program
CELNAV	Celestial Navigation Training
CFA	Controlled Firing Area
CFR	Code of Federal Regulations
CLMB	Climb
CMB	Climb
CMN	Common
CMPS	Compress
CONUS	Continental United States
CTA	Control Area
CTA/FIR	U.S. Control Airspace/Flight Information Region
DEN	Domestic Events Network
DHS	Department of Homeland Security
DoD	Department of Defense
DOD	Department of Defense
DPRT	Departure or Depart
DRCT	Direct
DSN	Defense Switched Network
DSND	Descend
DVFR	Defense Visual Flight Rules
EFTO	Encrypt For Transmission Only
ELP	Emergency Landing Pattern
ENCAN	Enter Canadian Airspace
ENJJPT	Euro-NATO Joint Jet Pilot Training
ESCAT	Emergency Security Control of Air Traffic
ESS	Electronic Scoring Site
ETD	Estimated Time of Departure

Abbreviation	Meaning
EUCARF	European Central Altitude Reservation Facility
EWO	Emergency War Order
EXCAN	Exit Canadian Airspace
FAA	Federal Aviation Administration
FACSFAC	Fleet Area Control and Surveillance Facility
FIR	Flight Information Region
FLIP	Flight Information Publication
FRD	Fix/radial/distance
FRMN	Formation
FSDO	Flight Standards District Office
GCA	Ground Controlled Approach
GCI	Ground Controlled Intercept
HCF	Honolulu Control Facility
IBASF (number)	Interval Between Aircraft in Stream Formation is (minutes)
ICAO	International Civil Aviation Organization
IFPPF	Individual Flight Plan From This Point
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
IP	Initial Point
IR	IFR Military Training Route
JATOC	Joint Air Traffic Operations Command
JCAT	JATOC Crisis Action
JCS	Joint Chiefs of Staff
KIAS	Knots Indicated Air Speed
LOA	Letter of Agreement
LOP	Letter of Procedure
LOWAT	Low Altitude Air-to-Air Training
LVLOF	Level Off
MARSA	Military Authority Assumes Responsibility for Separation of Aircraft
MHz	Megahertz
MILREP	Military Representative
MITO	Minimum Interval Takeoff
MOA	Military Operations Area
MOR	Mandatory Occurrence Report
MRU	Military Radar Unit
MTR	Military Training Route
NAS	National Airspace System

Abbreviation	Meaning
NAVREP	Navy Representative to the FAA
NCR	National Capital Region
NCRCC	National Capital Region Coordination Center
NFDD	National Flight Data Digest
NGA	National Geospatial-Intelligence Agency
NHOP	National Hurricane Operations Plan
NOAA	National Oceanic and Atmospheric Administration
NOPAR	Do Not Pass to Air Defense Radar
NORAD	North American Aerospace Defense Command
NWSOP	National Winter Storm Operations Plan
ORI	Operational Readiness Inspection
PACAF	Pacific Air Forces
PACMARF	Pacific Military Altitude Reservation Facility
PADS	Pacific Air Defense Sector
PAR	Precision Approach Radar
PR	Partial Route
RAPCON	Radar Approach Control Facility (USAF, USN and USMC)
RATCF	Radar Air Traffic Control Facility (USN and USMC)
RAVEC	Radar Vector to a Geographical Point
RCVR	Receiver Aircraft for Air Refueling
RDT&E	Research, Development, Test, and Evaluation
REQ	Request
ROMES	Reference Our Message
RSU	Runway Supervisory Unit
RTE	Route
SAR	Search and Rescue
SFA	Single Frequency Approach
SFC	Surface
SFO	Simulated Flameout
SIDOR	Standard Instrument Departure from Optimum Runway
SIF	Special Interest Flight
SODAR	Simultaneous Opposite Direction Aerial Refueling
SOSC	System Operations Support Center

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

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.

Broad Front. This activity is used to occupy a frontal width (as measured perpendicular to the direction of the flight) greater than what is normally allowed.

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).

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 at 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) Unit. CARCAH is a remote operating unit of the 53rd Weather Reconnaissance Squadron. CARCAH's mission is to coordinate all tropical cyclone operational reconnaissance requirements at the National Hurricane Center (NHC) and the Central Pacific Hurricane Center for the North Atlantic, Caribbean, Gulf of America, and the North Pacific east of the International Date Line in accordance with the National Hurricane Operations Plan (NHOP). In addition, during the winter, CARCAH coordinates the Atlantic and Pacific winter storm requirements in support of the National Winter Season Operations Plan (NWSOP).

Climb-out Fix. The point in space where en route operation is resumed after climb-out from an MTR. This fix must 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.

Command and Control (C2). The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. [JP1-A]

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 (CONUS). All United States territory of the 48 contiguous states (does not include Alaska and Hawaii), including the adjacent territorial waters within 12 miles of the coast of the 48 contiguous states. (32 CFR section 245.5)

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 established to contain activities, which if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft. (14 CFR section 1.1)

Controlling Agency. The controlling agency is the FAA ATC facility that exercises control of the airspace when a SUA area is not activated. A military ATC facility may be assigned as the controlling agency, subject to the concurrence of the Service Center OSG and the concerned ARTCC. A controlling agency must be designated for each joint-use SUA area. (Refer to FAA Order JO 7400.2, Procedures for Handling Airspace Matters.)

D-DEFINITIONS

DD-175/DD-1801. A domestic/international military flight plan.

Defense Area. Any airspace of the contiguous United States that is not an ADIZ in which the control of aircraft is required for reasons of national security.

Defense Emergency. An emergency condition that exists when:

- a. A major attack is made upon U.S. forces overseas or on allied forces in any theater and is confirmed by either the commander of a command established by the Secretary of Defense or higher authority; or
- b. An overt attack of any type is made upon the United States and is confirmed either by the commander of a command established by the Secretary of Defense or higher authority.

Defense Visual Flight Rules (DVFR). A flight within an ADIZ conducted by any aircraft (except for Department of Defense and law enforcement aircraft) in accordance with visual flight rules in part 91 of this title. (14 CFR section 99.3) (See Air Defense Identification Zone.) (Refer to the AIM for ADIZ procedures.)

Domestic Event Network (DEN). FAA-sponsored 24/7 interagency telephonic conference dedicated to real-time coordination of air traffic management (ATM) security-related incidents in the NAS. The purpose of the DEN is to provide timely notification to the appropriate authority that there is an ATM security-related problem, suspicious situation, or incident.

E-DEFINITIONS

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

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.

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

F-DEFINITIONS

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. (14 CFR section 1.1)

Flight Plan. Specified information, relating to the intended flight of an aircraft, that is filed electronically, orally or in writing with an FSS, third-party vendor, or an ATC facility. (Pilot/controller Glossary) (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.

H-DEFINITIONS

HAWK. 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).

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.

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

JATOC Crisis Action Team (JCAT). A surged element of the JATOC responsible for serving as ATO's primary national level communications and coordination hub for significant incidents, such as hurricanes and other natural disasters. (Refer to FAA Order JO 7200.25, Joint Air Traffic Operations Command (JATOC).)

Joint Air Traffic Operations Command (JATOC). The JATOC integrates Service Units at all levels enabling a unified FAA Air Traffic Organization (ATO) response effort to significant incidents and other major events or natural disasters that adversely impact the NAS or national security. The JATOC will address constraints, risks, and threats to the NAS and communicate this information to ATO leadership and appropriate stakeholders. (Refer to FAA Order JO 7200.25, Joint Air Traffic Operations Command (JATOC).)

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 or segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted. (14 CFR section 1.1)

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 AWACS aircraft that meet the requirements of this order. MRUs will provide services in accordance with letters of agreement with the appropriate ATC facilities; however, MRUs must not provide ATC services.

Military Representative (MILREP). DoD Military Representatives (MILREPs) are FAA's principal points of contact for DoD aviation, airspace, and air traffic control matters; and are instrumental in providing effective liaison and agency interoperability. MILREP positions are embedded with various FAA lines of business at both FAA Headquarters and FAA Service Center offices.

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

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.)

Mode S code. The unique ICAO aircraft address code used in ADS–B systems associated with the registration of an aircraft.

Moving Airspace Reservation. The term used in oceanic ATC for airspace that encompasses oceanic activities and advances with the mission progress; i.e., the reservation moves with the aircraft or flight. (See Moving Altitude Reservation.)

Moving Altitude Reservation. An altitude reservation which encompasses en route activities and advances with the mission progress; i.e., the reservation moves with the aircraft or flight.

N-DEFINITIONS

National Airspace System (NAS). The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military. (Pilot/Controller Glossary)

National Flight Data Digest (NFDD). A daily (except weekends and Federal holidays) publication of flight information appropriate to aeronautical charts, aeronautical publications, Notices to Airmen, or other media serving the purpose of providing operational flight data essential to safe and efficient aircraft operations.

National Hurricane Operations Plan (NHOP). The Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM) works with Federal agency stakeholders to plan hurricane observing and reconnaissance in preparation for each hurricane season. The NHOP focuses heavily on the planning, execution, and use of aerial reconnaissance conducted by the Air Force Reserve Command's 53rd Weather Reconnaissance Squadron (WRS) and NOAA's Aircraft Operations Center (AOC); addresses meteorological satellite, weather radar, and ocean observing; and a number of other, related topics.

National Winter Season Operations Plan (NWSOP). The purpose of the NWSOP is to coordinate the efforts of the Federal meteorological community to provide enhanced weather observations of severe winter storms that impact the coastal regions of the United States. This plan focuses on the coordination of requirements for winter storm reconnaissance observations provided by the Air Force Reserve Command's 53rd Weather Reconnaissance Squadron and NOAA's Aircraft Operations Center.

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

NORAD Sector. A geographical subdivision of a NORAD region.

North American Aerospace Defense Command (NORAD). A United States and Canada bi–national organization charged with the missions of aerospace warning, aerospace control and maritime warning for North America. Aerospace warning includes the detection, validation, and warning of attack against North America whether by aircraft, missiles, or space vehicles, through mutual support arrangements with other commands.

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, or procedure, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

a. NOTAM (D). The classification of NOTAMs containing information concerning the establishment, condition, or change in any aeronautical facility, en route navigational aids, services, procedures, hazards and civil public–use airports listed in the Chart Supplement.

b. Flight Data Center (FDC) NOTAM. The classification of NOTAMs containing flight information that is normally regulatory in nature including, but not limited to, changes to IFR charts, procedures, and airspace usage. For example, FDC NOTAMs with the keyword SECURITY are used for Department of State advisories, Special Federal Aviation Regulations (SFARs), advisories of national emergency, national security actions, special security instructions, and Air Defense Identification Zone (ADIZ) procedures.

c. CARF NOTAM. A NOTAM issued by CARF associated with a CARF approved ALTRV for a Stationary ALTRV or for a moving ALTRV in which AIRFL occurs below FL 180 or when the activity covers a broad frontal width. Also a NOTAM issued by ARTCCs for weather reconnaissance/research flights in Weather Reconnaissance Areas (WRA).

d. International NOTAM. The classification of NOTAMs received from other countries and stored in the U.S. NOTAM System.

e. Military NOTAM. The classification of NOTAMs issued by the U.S. Air Force, Army, Marine Corps, Navy, and Coast Guard against navigational aids and airports. Military units issue NOTAMs pertaining to their bases and airspace based on the guidelines set forth in Air Force Instruction Interservice Publication 11-208/AR 95-10/OPNAVINST 3721.20, DoD Notice to Airmen (NOTAM) System.

O-DEFINITIONS

Oceanic Airspace. Airspace over the oceans of the world, considered international airspace, where oceanic separation and procedures per the International Civil Aviation Organization are applied. Responsibility for the provisions of air traffic control service in this airspace is delegated to various countries, based generally upon geographic proximity and the availability of the required resources. (Pilot/Controller Glossary)

Offshore/Control Airspace Area. Designated international airspace between the U.S. territorial 12 mile limit and the oceanic CTA/FIR boundary, within signal coverage of domestic radio navigational aid or ATC radar coverage, in which domestic (U.S.) ATC procedures are applied. Offshore/Control Airspace Areas may be classified as either Class A airspace or Class E airspace. (80 FR 37710, Designation of Oceanic Airspace)

Orbit Area. This activity is used to occupy an expanded area used for holding or maneuvering of aircraft.

P-DEFINITIONS

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

Pacific Air Forces (PACAF). Both a USAF Major Command and the Air Component of the Unified U.S. Indo-Pacific Command (USINDOPACOM).

Pacific Island Air Defense Region (PIADR). A geographical subdivision of the USINDOPACOM 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

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 must 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 by ATC 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 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.

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.

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 immediate takeoff.

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.

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

Special Activity Airspace (SAA). Airspace with defined dimensions within the National Airspace System wherein limitations may be imposed upon operations for national defense, homeland security, public interest, or public safety. Special activity airspace includes but is not limited to the following; Air Traffic Control Assigned Airspace (ATCAA), Altitude Reservations (ALTRV), Military Training Routes (MTR), Air Refueling

Tracks and Anchors, Temporary Flight Restrictions (TFR), Special Security Instructions (SSI), etc. Special Use Airspace (SUA) is a subset of Special Activity Airspace.

Special Instructions (SPINS). For purposes of this order, SPINS provide amplifying instructions for execution of military exercises and other training activities, such as the application of MARSAs, type of aircraft involved, etc.

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, or wherein limitations may be imposed upon aircraft operations that are not a part of those activities, or both. (14 C.F.R. Section 73.3) Types of special use airspace:

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

Spill-Out. An excursion of an IFR or VFR military aircraft, or a civil aircraft contracted to the military, including remotely operated aircraft, from the exterior boundary of SAA allocated to military using agencies into other controlled airspace without coordination or prior approval.

Stationary Airspace Reservation. The term used in oceanic ATC for airspace that encompasses activities in a fixed volume of airspace to be occupied for a specified time period. Stationary Airspace 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 drone operations; and certain aerial refueling or similar operations. (See Stationary Altitude Reservation.)

Stationary Altitude Reservation (Stationary ALTRV). An altitude reservation which encompasses activities in a fixed volume of airspace to be occupied for a specified time period. Stationary ALTRVs 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 drone operations; and certain aerial refueling or similar operations.

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

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.

T-DEFINITIONS

Tactical Monitor (TM). A term used to identify a military unit that provides tactical information/guidance to aircraft flying autonomously within SUA. A Tactical Monitor is not responsible for containing aircraft within SUA.

Tanker Orbit Point. A geographical location along the planned refueling track where the tanker may hold prior to effecting rendezvous with the receiver aircraft.

Territorial Airspace of the United States. (See U.S. Territorial Airspace)

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 the pilot's 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.

NOTE-

The word “traffic” followed by additional information, if known, is used to provide such advisories; e.g., “Traffic, 2 o’clock, one zero miles, southbound, eight thousand.”

NOTE-

Traffic advisory service will be provided to the extent possible depending on higher priority duties of the controller or other limitations; e.g., radar limitations, volume of traffic, frequency congestion, or controller workload. Radar/nonradar traffic advisories do not relieve the pilot’s responsibility to see and avoid other aircraft. Pilots are cautioned that many times the controller is unable to give traffic advisories concerning all traffic in the aircraft’s proximity; in other words, when a pilot requests or is receiving traffic advisories, the pilot should not assume that all traffic will be issued. (Refer to the AIM.)

Trusted Agent. A designated point of contact used to limit distribution of close hold information. Trusted agents are most commonly used for NOPAR exercises/evaluations, No-Notice and ORI missions. The list of trusted agents must be kept to a minimum required to accomplish coordination.

U-DEFINITIONS

Uncontrolled Airspace. Airspace in which aircraft are not subject to controlled airspace (Class A, B, C, D, or E) separation criteria. (Pilot/Controller Glossary).

United States (U.S.). The States, the District of Columbia, Puerto Rico, and the possessions, including the territorial waters and the airspace of these areas. (14 C.F.R. Section 1.1)

U.S. Controlled Airspace. All airspace over the territory of the United States, extending 12 nautical miles from the coastline of U.S. territory; any airspace delegated to the United States for U.S. control by other countries or under a regional air navigation agreement; or any international airspace, or airspace of undetermined sovereignty, for which the United States has accepted responsibility for providing United States services. (14 CFR section 187.3)

U.S. Territorial Airspace. For purposes of this order, the airspace over the U.S., its territories, and possessions, and the airspace over the territorial sea of the U.S., which extends 12 nautical miles from the baselines of the U.S., determined in accordance with international law. (Refer to the AIM)

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

Unmanned Aircraft System (UAS). An unmanned aircraft and its associated elements related to safe operations, which may include control stations (ground, ship, or air based), control links, support equipment, payloads, flight termination systems, and launch/recovery equipment. It consists of three elements: unmanned aircraft, control station, and data link. (Pilot/Controller Glossary)

Using Agency. The using agency is the military unit or other organization whose activity established the requirement for the SUA. Refer to FAA Order JO 7400.2, Procedures for Handling Airspace Matters, for using agency responsibilities.

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.

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 area is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both. (14 CFR section 1.1)

Weather Reconnaissance (WX RECON). Missions flown by the 53rd Weather Reconnaissance Squadron (WRS) under the TEAL call sign and National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC) under the NOAA call sign for the purpose of gathering meteorological data from specific millibar levels in both tropical and winter weather systems.

Weather Reconnaissance Area (WRA). A WRA is airspace with defined dimensions and published by a NOTAM, which is established to support weather reconnaissance/research flights from the 53rd Weather Reconnaissance Squadron (WRS) and National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC). A WRA may only be established in airspace within U.S. Flight Information Regions (FIRs) outside of U. S. territorial airspace. Air traffic control (ATC) services are not provided within WRAs.

Whiskey Alert. A term used over a voice–page hot line to alert a controlling agency that a spill out situation is imminent.

Appendix 3. Documents Pertinent to System Operations Security

Document No.	Document	Page
1	Memorandum of Agreement between the National Oceanic and Atmospheric Administration Aircraft Operations Center, U.S. Air Force Reserve Command 53rd Weather Reconnaissance Squadron, and the Federal Aviation Administration Air Traffic Organization in Support of the National Hurricane Operations Plan	Appendix 3-2
2	FAA/DoD Memorandums – Guidance for DoD Reimbursable Support to the FAA	Appendix 3-13

Appendix 3. Document 1

**MEMORANDUM OF AGREEMENT
BETWEEN THE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AIRCRAFT
OPERATIONS CENTER, U.S. AIR FORCE RESERVE COMMAND 53RD WEATHER
RECONNAISSANCE SQUADRON,
AND
THE FEDERAL AVIATION ADMINISTRATION AIR TRAFFIC ORGANIZATION
IN SUPPORT OF THE NATIONAL HURRICANE OPERATIONS PLAN**

- A. PURPOSE:** The purpose of this Memorandum of Agreement (MOA) is to establish responsibilities for the National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC), U.S. Air Force Reserve Command (AFRC) 53rd Weather Reconnaissance Squadron (WRS), and the Federal Aviation Administration (FAA) Air Traffic Organization (ATO), which are hereinafter referred to as the “Parties”, to enable NOAA AOC and the 53rd WRS to conduct weather reconnaissance and research operations and to assume the responsibility for separating participating manned aircraft, and to use unmanned aircraft as weather instruments within a Weather Reconnaissance Area (WRA). The procedures and agreements contained herein, which apply to the Atlantic Ocean, Gulf of Mexico, Caribbean Sea, and the Pacific Ocean, are operationally executed through Letters of Agreement (LOA) between responsible Air Traffic Control (ATC) facilities and the NOAA AOC, 53rd WRS, and, as applicable, Special Use Airspace (SUA) Using Agencies.
- B. AUTHORITY:** The NOAA AOC enters into this MOA under the authority of the Weather Service Organic Act, 15 United States Code (USC) § 313 and 49 USC § 44720. The AFRC 53rd WRS enters into this MOA under the authority of the *National Hurricane Operations Plan (NHOP)*. The FAA enters into this MOA under the authority of 49 USC § 106(f) and §106(m).
- C. BACKGROUND:** The Department of Commerce, through NOAA, is charged with the overall responsibility to implement a responsive, effective national tropical cyclone warning service, including weather reconnaissance/research flights. The AFRC, through the 53rd WRS, and the U.S. Department of Transportation, through the FAA, also play roles in this NOAA led mission. The roles and responsibilities of these agencies are codified in the NHOP and in this MOA.
- D. DEFINITIONS:**
1. A Weather Reconnaissance Area (WRA) is airspace with defined dimensions and published by Notice to Airmen (NOTAM), which is established to support weather reconnaissance/research flights. ATC services are not provided within WRAs.¹ Only participating weather reconnaissance/research aircraft from NOAA AOC and 53rd WRS are permitted to operate within a WRA. A WRA may only be established in airspace within U. S. Flight Information Regions (FIRs) outside of U.S. territorial airspace.
 2. A “Participating Aircraft” is defined for the purposes of this MOA and related documents² as a NOAA AOC/53rd WRS manned aircraft listed in the Tropical Cyclone

¹ The FAA may provide ATC services to participating flights in transit to and from WRAs, but will not provide ATC services, specifically including separation, to these flights within a WRA.

² Including the NHOP’s Chapter 6 and any executing LOAs.

Plan of the Day (TCPOD) or tasked with an unscheduled operational mission that is conducted in a WRA.

E. ACTIVITIES:

1. Activities covered under this MOA are limited to NOAA AOC and AFRC 53rd WRS manned flight operations conducted in accordance with the NHOP, applicable LOAs, and as described in a published NOTAM for a WRA.
2. Unmanned Aircraft Systems (UAS) used for purposes of collecting weather data within a WRA must be operated in accordance with limitations described in the NHOP CHAPTER 6, AIRCRAFT OPERATIONS. No other UAS operations are permitted within a WRA.

F. RESPONSIBILITIES:

1. NOAA AOC must:

- (a) Enter into LOAs (using the template provided in attachment 1) with ATC facilities, the 53rd WRS, and, as applicable, the appropriate Special Use Airspace (SUA) using agencies.
- (b) Provide coordinated procedures and training for aircrews of NOAA AOC participating aircraft to operate in a WRA. These procedures must include, but not be limited to: minimum lateral and vertical separation; methods of determining such separation; and aircraft-to-aircraft communication phraseology when operating in a WRA.
- (c) Provide procedures and training for aircrews of NOAA AOC participating aircraft to use communication, navigation and surveillance (CNS) equipment that will support safe operations within a WRA.
- (d) Identify aircraft and define minimum functioning CNS equipment that must be used under this MOA.
- (e) Ensure the appropriate separation procedures, described in paragraph G of this MOA, for use within specific WRAs are briefed to aircrews of NOAA AOC participating aircraft.

2. AFRC 53rd WRS must:

- (a) Enter into LOAs (using the template provided in attachment 1) with ATC facilities, the NOAA AOC, and, as applicable, the appropriate SUA using agencies.
- (b) Provide coordinated procedures and training for 53rd WRS aircrews to operate in a WRA. These procedures must include, but not be limited to: minimum lateral and vertical separation; methods of determining such separation; and aircraft-to-aircraft communications phraseology when operating in a WRA.
- (c) Provide procedures and training for 53rd WRS aircrews to use communication, navigation and surveillance equipment that will support safe operations within a WRA.
- (d) Identify aircraft and define minimum functioning CNS equipment that must be used under this MOA.

- (e) Ensure the appropriate separation procedures, described in paragraph G of this MOA, for use within specific WRAs are briefed to aircrews of 53rd WRS participating aircraft.

3. FAA must:

- (a) Enter into LOAs (using the template provided in attachment 1) with NOAA AOC, the AFRC 53rd WRS, and, as applicable, the appropriate SUA using agencies. This action will be taken by ATC facilities that are responsible for airspace in which the participating aircraft will operate.
- (b) Receive and coordinate WRA NOTAM request.
- (c) Issue WRA NOTAMs in support of the NHOP (using the template provided in attachment 2).
- (d) Provide ATC services to participating aircraft in accordance with FAA Order 7110.65, *Air Traffic Control*, FAA Order 7610.4, *Special Operations*, and appropriate LOAs in support of NHOP as follows:
 - (1) Until participating aircraft report entering the NOTAM-defined WRA NOTAM airspace; and
 - (2) When participating aircraft report exiting the NOTAM-defined WRA airspace.
- (e) Prevent non-participating aircraft receiving ATC services from entering the WRA during the effective time of the WRA as published in the NOTAM.

3. PROCEDURES:

- 1. Chief Aerial Reconnaissance Coordination All Hurricanes (CARCAH):** The CARCAH must advise aircrews when participating aircraft will be in the WRA and brief call signs and mission information.
- 2. WRA NOTAM Request:**
 - (a) NOAA AOC or the 53rd WRS must submit, in accordance with the NHOP, a request for a WRA NOTAM to the en route ATC facility,³ which is responsible for the airspace in which the subject weather reconnaissance/research flights will be operated, and the Air Traffic Control System Command Center (ATCSCC) as soon as practical prior to the start of the mission. The request must contain detailed information regarding the geographic definition of the WRA and altitude information.
 - (b) NOAA AOC or the 53rd WRS must coordinate with the en route ATC facility, which received and agreed to support the aforementioned request, and the ATCSCC, to request FAA support of any proposed changes to the defined WRA.
- 3. Flight Plan Filing:** Participating aircraft must file a flight plan, as soon as practicable, that includes a delay time in the WRA. Failure to include a delay time will result in flight plan cancellation.
- 4. Participating Aircraft Arrival to a WRA:**

Specifically includes FAA Air Route Traffic Control Centers (ARTCC), Center Radar Approach Controls (CERAP), and, in select cases, Combined Control Facilities (CCF) such as the Honolulu Control Facility (HCF).

- (a) Participating aircraft must use ATC services in transit to and from the WRA.
 - (b) Prior to entering the WRA, the arriving aircraft must obtain the position and altitude of each aircraft already in the WRA and verify the defined dimensions of the WRA, including center coordinates and maximum radius.
 - (c) Arriving aircraft will enter the WRA at FL150,⁴ unless otherwise coordinated with ATC and the other participating aircraft.
5. Participating Aircraft Operations within a WRA: The following actions will be taken by aircraft, in accordance with the NHOP, to de-conflict operations and enhance situational awareness with other aircraft while operating within a WRA:
- (a) Set 29.92 (inches Hg) in at least one pressure altimeter per aircraft.
 - (b) Contact (Primary: VHF 123.05 MHz; Secondary: UHF 304.8 MHz; Back-up: HF 4701 KHz) the other participating aircraft and confirm, at a minimum, the pressure altitude, location relative to the WRA center point position, true heading, and operating altitudes.
 - (c) Monitor the contact frequencies indicated above during the duration of the flight and maintain communication with all other participating aircraft at all times.
 - (d) The WRA center coordinates will be used for the duration of the flight. If a WRA is moved due to operational reasons, a different WRA center point will be coordinated between all participating aircraft and impacted ATC facilities as soon as possible.
 - (e) If any aircraft is unable to maintain assigned altitude(s), immediately notify all participating aircraft and take actions to ensure sufficient vertical and/or lateral separation is maintained or attained as soon as practical.
 - (f) Use “see and avoid” principles to the maximum extent possible within the WRA. Aircraft must periodically broadcast GPS position reports to other participating aircraft within the WRA and use air-to-air TACAN and cockpit displays/maps to maintain awareness of other aircraft locations.
6. Separation between participating aircraft within a WRA:
- (a) Aircraft 10 NM or more from other aircraft operating in the same WRA must maintain vertical separation within the WRA of at least 1,000 feet between their operating altitudes or block altitudes, or as specified in the applicable LOA.
 - (b) Aircraft less than 10 NM from other aircraft operating in the same WRA, must apply vertical separation of at least 2,000 feet between operating altitudes or block altitudes, or as specified in the applicable LOA. Aircraft may use air-to-air TACAN and TCAS to assist with visual acquisition. Reduced vertical separation may be applied with concurrence from other aircraft within the WRA.

NOTE- The 53rd WRS may apply Military Assumes Responsibility for Separation of Aircraft (MARS), in accordance with FAA Order 7110.65 and FAA Order 7610.4, between 53rd WRS aircraft within the WRA. MARS may not be applied between 53rd WRS aircraft and NOAA AOC aircraft.

The upper limit of WRAs may be negotiated between NOAA AOC, 53rd WRS, and the responsible FAA en route ATC. While the template NOTAM indicates SFC-15,000 feet, the WRA ceiling may be lowered, especially when established closer to land where ATC services are provided at lower altitudes.

7. Altitude changes between participating aircraft within the WRA:
- (a) Aircraft must initiate communications with each other prior to altitude changes and maintain two-way aircraft-to-aircraft communications throughout the duration of the altitude change.
 - (b) Aircraft must ensure positive lateral separation (in accordance with sub-paragraphs (d), (e), and (f) in this section) prior to descending or climbing through the altitude(s) of other aircraft by reference to the WRA center point using the appropriate aircraft navigation systems.
 - (c) An altitude change is complete when the aircraft changing altitude advises the other aircraft, and receives an acknowledgement, that the altitude to which it was climbing or descending is reached and maintained.
 - (d) Aircraft that are not in visual contact and separated by 30NM or more, as indicated by the appropriate aircraft navigation systems, may transition through the altitude of other participating aircraft.
 - (e) Aircraft that are not in visual contact and separated by less than 30 NM, as indicated by the appropriate aircraft navigation systems, must confirm with each other that they are not on converging courses prior to an altitude change.
 - (f) Aircraft that are in visual contact may apply visual separation in accordance with the following procedures:
 - (1) The aircraft that initiates visual separation must advise the other aircraft that the aircraft is in sight and will maintain visual separation from it.
 - (2) The observed aircraft must acknowledge the use of visual separation by the initiating aircraft prior to the altitude change.
 - (3) The aircraft changing altitude must advise the other aircraft upon reaching and maintaining the altitude to which it was climbing or descending.
 - (4) Visual separation may be discontinued when the altitude change is complete according to sub-paragraph (c) in this section.
8. Participating Aircraft Departure from a WRA:
- (a) Prior to departing the WRA, aircraft will establish communications with the appropriate ATC facility and request an IFR clearance.
 - (b) Prior to departing the WRA, aircraft will verify and maintain vertical and lateral separation from other participating aircraft in the WRA.
 - (c) Aircraft will depart the WRA at FL140, unless otherwise coordinated with ATC and other aircraft in the WRA.⁵
 - (d) Departing aircraft will report, “leaving (tropical activity name) WRA,” to other aircraft in the WRA.

⁵ See footnote 4 for information on WRAs with lowered ceilings.

NOTE- The tropical activity name (as identified by the National Hurricane Center) provides identification of the WRA. Examples: Isabelle WRA, Sandy WRA, Tropical Storm Emily WRA, etc.

- (e) Should an aircraft lose communications with the other participating aircraft within a WRA, it will maintain the last altitude that was coordinated with the other aircraft until it departs the WRA.
- (f) If navigation systems become unreliable, the flight crew will terminate the mission and depart the WRA at the last coordinated altitude, or as coordinated with ATC if radio communications are available.

H. FUNDS AND OTHER RESOURCES: This MOA neither documents nor provides for the exchange of funds or other resources, including personnel, among the Parties, nor does it make any commitment of funds or other resources. Each Party makes appropriate resource and funding decisions under their own authorities in order to maximize the benefits of the partnership and cooperation under this MOA.

I. PERSONNEL: Each Party is responsible for all costs of its personnel engaged in activities covered by this MOA, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

J. GENERAL PROVISIONS:

1. This MOA supersedes any existing MOAs, memorandums of agreement, or other agreements between the Parties, insofar as any such document is inconsistent with this MOA.
2. Nothing in this MOA is intended nor may be construed to limit or affect in any way the authority or legal responsibilities of the Parties.
3. Nothing in this MOA is intended nor may be construed to obligate the Parties to any current or future expenditure of resources in advance of the availability of appropriations from Congress. This MOA does not obligate the Parties to expend funds on any particular activity, even if funds are available.
4. Specific activities implemented pursuant to this MOA that involve the transfer of funds, services, or property between the Parties will require the execution of separate agreements.
5. POINTS OF CONTACT: The following points of contact will be used by the Parties to communicate in the implementation of this MOA. Each Party may change its point of contact upon reasonable notice to the other Party.
 - (a) FOR NOAA AOC: Commanding Officer, Aircraft Operations Center
 - (b) FOR AFRC 53rd WRS: Commander, 403rd Operations Group
 - (c) FOR FAA ATO: Manager, Strategic Operations Security
6. This MOA is not transferrable.

K. DURATION AND MODIFICATIONS: This MOA shall remain in effect unless cancelled by one of the Parties. This MOA may be jointly reviewed upon request by a signatory Party, and

may be modified by mutual written consent of the undersigned. Joint reviews should be completed prior to the annual Interdepartmental Hurricane Conference.

L. EFFECTIVE DATE: This MOA becomes effective beginning on the day after the last Party signs.

Attachments

- 1. WRA Letter of Agreement Template
- 2. WRA NOTAM Template

APPROVED



Robert H. Sweet
Manager, Strategic Operations Security,
Air Traffic Organization, System Operations Security
Federal Aviation Administration

14 March 2018

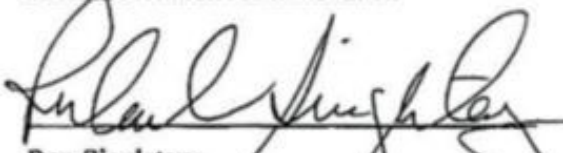
Date

Duane W. Freer

Virginia Boyle
Air Traffic Manager, Air Traffic Control System Command Center
Air Traffic Organization, System Operations Services
Federal Aviation Administration

March 16, 2018

Date



Ron Singletary
Group Manager, Technical Advisory Group
Air Traffic Organization, Air Traffic Services
Federal Aviation Administration

MARCH 19, 2018

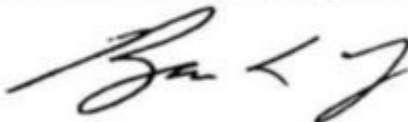
Date



Captain Timothy Gallagher
Commanding Officer, Aircraft Operations Center
National Oceanic and Atmospheric Administration

13 APR 18

Date



Colonel Brian A. May
Commander, 403rd Operations Group
U.S. Air Force Reserve Command

16 Apr 18

Date

ATTACHMENT 1

LETTER OF AGREEMENT TEMPLATE

BETWEEN

[INSERT NAME AND LOCATION ID OF FAA EN ROUTE ATC FACILITY OR FACILITIES]

AND THE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AIRCRAFT OPERATIONS
CENTER AND

U.S. AIR FORCE RESERVE COMMAND 53RD WEATHER RECONNAISSANCE SQUADRON

SUBJECT: PARTICIPATING WEATHER RECONNAISSANCE / RESEARCH AIRCRAFT
OPERATIONS WITHIN WEATHER RECONNAISSANCE AREAS

1. **PURPOSE:** To define responsibilities and procedures for the National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC) and the U.S. Air Force Reserve Command (AFRC) 53rd Weather Reconnaissance Squadron (53rd WRS) to conduct weather reconnaissance/research operations with participating manned aircraft in a Weather Reconnaissance Area (WRA) within the Flight Information Region (FIR) of the Federal Aviation Administration (FAA) Air Traffic Control (ATC) facility or facilities identified in paragraph two of this Letter of Agreement (LOA).
2. **SCOPE:** This LOA is applicable to [insert name and location ID of ATC facility or facilities], NOAA AOC, and the 53rd WRS. The provisions of this LOA are only applicable in United States controlled FIRs.
3. **AUTHORITY:** [insert location ID of ATC facility or facilities], NOAA AOC, and 53rd WRS enter into this agreement under the authority of the trilateral Memorandum of Agreement (MOA), *Memorandum of Agreement Between the National Oceanic and Atmospheric Administration Aircraft Operations Center, U.S. Air Force Reserve Command 53rd Weather Reconnaissance Squadron, and the Federal Aviation Administration Air Traffic Organization in Support of the National Hurricane Operations Plan.*
4. **RESPONSIBILITIES:**
 - a. The NOAA AOC and 53rd WRS must:
 - (1) Ensure that all operations personnel are briefed on the provisions of this LOA.
 - (2) Submit, when logistically possible, a pre-planning package to [insert location ID of ATC facility or facilities] and the Air Traffic Control System Command Center (ATCSCC) a minimum 2 hours prior to planned mission start. The package should contain information on aircraft call signs, beacon codes, geographic definition of proposed mission area, and other pertinent mission information.
 - (3) Submit a WRA Notice to Airmen (NOTAM) request to the en route ATC facility⁶, which is responsible for the airspace in which the weather reconnaissance/research flight will be

⁶ Specifically includes FAA Air Route Traffic Control Centers, Center Radar Approach Controls (CERAP), and, in select cases, Combined Control Facilities (CCF) such as the Honolulu Control Facility (HCF).

operated, and the Air Traffic Control System Command Center (ATCSCC) as soon as practical prior to the start of mission. The request must contain detailed information regarding the geographic definition and altitude information of the WRA.

- (4) Coordinate with the responsible en route ATC facility and the ATCSCC to request FAA support of any proposed changes to the defined WRA.
- (5) Ensure that pilots operating under the provisions of this LOA are responsible for remaining within the vertical and lateral confines of the airspace as defined in the published WRA NOTAM.
- (6) Ensure that pilots understand their responsibility for separation from Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) aircraft operating in uncontrolled airspace.

NOTE: Operations within offshore and oceanic airspace include areas of uncontrolled airspace. Aircraft may encounter non-participating, untracked aircraft operating under VFR or IFR at and below 5,500 feet MSL.

b. [insert location ID of ATC facility or facilities] must:

- (1) Ensure that all ATC personnel are briefed on the provisions of this LOA.
- (2) Review the Tropical Cyclone Plan of the Day (TCPOD) at www.nhc.noaa.gov/reconlist.shtml by 1830 UTC.
- (3) Coordinate, as necessary, with other affected ATC facilities to ensure a complete understanding of each facility's responsibilities and procedures.
- (4) Coordinate requested WRAs with the NOAA AOC, 53rd WRS, and impacted Special Use Airspace (SUA) Using Agencies.

NOTE –SUA Using Agencies determine if Department of Defense (DOD) operational requirements are compatible with the establishment of a WRA and should define de-confliction procedures for SUA that may not be released.

- (5) Establish WRAs by published NOTAMs.
- (6) Prevent non-participating aircraft receiving ATC services from entering the WRA during the effective time of the WRA as published in the NOTAM.
- (7) Submit a signed copy of the LOA to ATO System Operations Security (9-ATOR-HQ-IFOS@faa.gov) for recordkeeping purposes.

PROCEDURES:

a. [insert location ID of ATC facility or facilities] Procedures:

- (1) Provide ATC services to and from the WRA in accordance with FAA Order 7110.65, *Air Traffic Control*, FAA Order 7610.4, *Special Operations*, the trilateral MOA cited in Section 3 of this LOA, and applicable ATC facility Standard Operating Procedures (SOP).
- (2) Provide NOAA AOC and 53rd WRS participating aircraft with a clearance into the WRA in accordance with the trilateral MOA cited in Section 3 of this LOA.
- (3) Provide an IFR clearance to participating aircraft requesting to depart the WRA.

b. Participating Aircraft Procedures: Pilots request entry to and departure from the WRA according to the trilateral MOA cited in Section 3 of this LOA.

- 6. DURATION AND MODIFICATIONS: This LOA shall remain in effect unless cancelled by one of the Parties. This LOA may be jointly reviewed upon request by either Party, and may be modified by mutual written consent of the undersigned.
- 7. EFFECTIVE DATE: This LOA becomes effective beginning on the day after the last Party signs.

APPROVED BY:

 (Name)
 Air Traffic Manager
 (ATC Facility)

Date

 (Name)
 Commanding Officer, Aircraft Operations Center
 National Oceanic and Atmospheric Administration

Date

 (Name)
 Commander, 403rd Operations Group,
 U.S. Air Force Reserve Command

Date

 (Name)
 (Using Agency Title),
 (DOD Component)

Date

Appendix 3. Document 1 (continued)

ATTACHMENT 2

WRA NOTAM TEMPLATE

!!CARF X/XXXX (APPLICABLE ARTCSS(s)) (AXXXX/XX)...AIRSPACE
 (HURRICANE/TYPHOON/TROPICAL STORM) (NAME OF TROPICAL DISTURBANCE) WEATHER (WX)
 RECONNAISSANCE FLIGHTS WI THE WX RECONNAISSANCE AREA (WRA) DEFINED AS XXX NM
 RADIUS OF XXXXXXNXXXXXXXXW (ARTCCS/CERAPS/HCF AND SUA USING AGENCIES MUST
 COORDINATE TO PUBLISH ANY REQUIRED AIRSPACE CUT OUTS) SFC-XXX. VERTICAL
 MANEUVERING AND RELEASE OF WEATHER INSTRUMENTS ARE EXPECTED. NONPARTICIPATING
 AIRCRAFT SHOULD AVOID THE WRA. IFR AIRCRAFT CAN EXPECT REROUTES. FOR ANY
 QUESTIONS REGARDING THIS WRA NOTAM PLEASE CONTACT XXX AT (XXX) XXX-XXXX (ARTCC
 IDENTIFIER AND TELEPHONE NUMBER)

TIME-TIME

NOTES-

1. WRAs may only be established in airspace within U.S. FIRs outside of U.S. territorial airspace (12 NM).
2. Cut-outs should include Class B, Class C, Class D, and SUA, as applicable.
3. Distance (NM) for the WRA radius must be coordinated. It will be dependent on the WRA location and ATC operational requirements.
4. If more than one WRA is required, the WRA boundaries must be no closer than the lateral separation standards required for aircraft operations defined in FAA JO 7110.65 and Letters of Agreement.
5. WRA NOTAM must utilize CARF identifier for widest domestic and international dissemination.
6. The ARTCC responsible for originating the NOTAM should include their contact information.

Document 2**Appendix 3. Document 2****FAA/DoD Memorandums – Guidance for DoD Reimbursable Support to the FAA**

OFFICE OF THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-1000

September 19, 2017

MEMORANDUM FOR DIRECTOR, SYSTEM OPERATIONS SECURITY, AIR TRAFFIC,
FEDERAL AVIATION ADMINISTRATION

SUBJECT: Cancellation of 2003 Memorandum of Understanding between Federal Aviation Administration and Department of Defense for DOD Reimbursable Personnel Support to DOT/FAA

This memorandum is in response to your notification cancelling the 2003 Memorandum of Understanding (MOU) between our Departments for DoD support to DOT/FAA (see attached). I concur with your assessment and the termination of the MOU effective September 11, 2017.

This termination does not preclude the Federal Aviation Administration (FAA) from requesting support on a case-by-case basis. FAA may continue to submit individual requests in accordance with Department of Defense Instruction 1000.17, "Detail of DoD Personnel to Duty Outside the Department of Defense," subject to availability of resources and personnel. Personnel currently detailed to FAA under the 2003 MOU will remain in place until the scheduled end date of their current detail at which time requests for their replacement or extension will be submitted on an individual basis. If you have any questions, please contact Sandra Simmons at (703) 692-7048.

Hallock N. Mohler, Jr.
CAPT, USN
Executive Secretary

Attachments:
As stated

cc:
OUSD(AT&L) (H. Knipes)
SAF/AAR (J. Williams)
USN (LCDR J. Chuma)



U.S. Department
of Transportation
**Federal Aviation
Administration**

September 8, 2017

MEMORANDUM FOR DEPARTMENT OF DEFENSE EXECUTIVE SECRETARY

SUBJECT: Cancellation of 2003 Memorandum of Understanding between Federal Aviation Administration and Department of Defense for DOD Reimbursable Personnel Support to DOT/FAA

Dear Captain Hallock Mohler:

On September 29, 2014, the DOD Executive Secretary sent a letter to the FAA Administrator requesting the FAA to update the 2003 Memorandum of Understanding (MOU) between FAA and DOD for Reimbursable Personnel Support.

The FAA has completed an analysis of this request, and has decided to exercise the termination process in section VI of the subject MOU. FAA hereby provides written notice to DOD of its intent to cancel the 2003 MOU between Federal Aviation Administration and Department of Defense for DOD Reimbursable Personnel Support to DOT/FAA. Per the provisions in section VI, the MOU is considered cancelled 30 days after receipt by the DOD Executive Secretary.

The FAA still considers it essential to national security and the DOD that military personnel continue to present DOD's perspective and provide their expertise as members of the FAA staff. FAA lines of business (LOBs)/staff offices which require DOD Reimbursable Support will now coordinate directly with your office for that support, in place of an overarching MOU, to proceed with individual MOUs on a case-by-case basis, pending availability of resources and personnel, and in accordance with the process outlined in Department of Defense Instruction (DODI) 1000.17, Detail of DoD Personnel to Duty Outside the Department of Defense.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Throop".

Brian Throop

Director (Acting), System Operations Security
Air Traffic Organization

Enclosures: FAA-141002-011 IMOU pdf

Appendix 4. Documents Pertinent to Mission Support Services

Document No.	Document	Page
1	Memorandum of Agreement between Department of Transportation, Federal Aviation Administration, and the U.S. Army – the U.S. Navy – the U.S. Air Force	Appendix 4-2
2	Memorandum of Agreement (MOA) between the Federal Aviation Administration (FAA) and the Department of Defense (DoD) for Military Representatives to FAA	Appendix 4-5
3	Speed Authorization Granted to DoD	Appendix 4-10
4	Grant of Exemption No, 2861A – Single Altimeter Setting for Frequent Transit of FL180	Appendix 4-12

Appendix 4. Document 1

MEMORANDUM OF AGREEMENT BETWEEN DEPARTMENT OF TRANSPORTATION, FEDERAL AVIATION ADMINISTRATION, AND THE U.S. ARMY—THE U.S. NAVY—THE U.S. AIR FORCE

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 IFR 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 ASR/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 1.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.

Appendix 4. Document 1 (continued)

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 is 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-

ational concepts, staffing, training, maintenance of equipment, utilization of space, parking and janitorial service, and security.

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 4. Document 2

MEMORANDUM OF AGREEMENT (MOA) BETWEEN THE FEDERAL AVIATION ADMINISTRATION (FAA) AND THE DEPARTMENT OF DEFENSE (DOD) FOR MILITARY REPRESENTATIVES TO FAA

This is a MOA between the DoD and the FAA. When referred to collectively, the DoD and the FAA are referred to as the "Parties."

1. **BACKGROUND:** As an air navigation service provider, the DoD shares responsibility with the FAA to manage the National Airspace System (NAS). In order to meet critical national security requirements, it is essential for the FAA to closely coordinate daily operational plans, procedures, policies, programs, and activities with the military. Also, under certain emergency conditions, Executive Order 11161, as amended by Executive Order 11382, may transfer specified FAA functions to the DoD. In the event of a transfer, interagency relationships must be understood in advance; therefore, embedded DoD Military Representatives (MILREPs) are instrumental to achieve effective liaison and agency interoperability. The MILREP positions are the FAA's principal points of contact for DoD aviation, airspace, and air traffic control matters.

2. **AUTHORITIES:** The FAA enters into this MOA pursuant to the authority of Title 49 U.S. Code (U.S.C.) Section 106(1) and (m). The DoD enters into this MOA pursuant to DoD Directive 5030.19 and DoD Instruction 4000.19.

3. **PURPOSE:** This MOA establishes and defines the roles, responsibilities, and relationships of the Parties regarding MILREPs at both Headquarters (HQ) FAA and FAA Regional Service Area offices that are co-located with FAA Service Centers. The MILREP responsibilities are accomplished with various FAA lines of business at both the HQ FAA and Regional office levels.

4. UNDERSTANDINGS OF THE PARTIES:

4.1. The FAA will—

4.1.1. Sponsor MILREPs for access and other requirements at HQ FAA and FAA Regional Offices. Sponsorship will be provided by the Vice President, Mission Support (AJV-0) for MILREPs assigned to HQ FAA, and by FAA Regional Administrators for MILREPs assigned at the Regional levels.

4.1.2. Provide all assigned MILREPs full facility security access credentials as required for building access and access to all other facilities (e.g., secured areas) for MILREPs to adequately conduct their duties.

4.1.3. Provide administrative office space to the MILREPs, commensurate with FAA equivalent standards, to include custodial services, utilities, and maintenance to allow the MILREPs to adequately conduct their duties.

Appendix 4. Document 2 (continued)

4.1.4. Provide communications and Information Technology (IT) support and maintenance to the MILREPs, commensurate with FAA equivalent standards, to include:

4.1.4.1. Provide computers/laptops (provision for two monitors as necessary), printers, associated peripherals, and use of licensed software, to include operating system and applications, on the FAA network. Select MILREPs will be considered Supervisors and will be afforded Supervisor status in their respective line of business for automation updates.

4.1.4.2. The ability for MILREPs to transfer files, e-mail archives, and other data as appropriate, from the FAA network to the DoD network when MILREPs are reassigned or otherwise cease performing in the MILREP capacity.

4.1.4.3. Provide commercial local and long distance telephone service, message handling, facsimile or facsimile scanner, secure telephone, IT equipment, and network access with appropriate rights and privileges for conducting interagency business in FAA facilities. To facilitate communications with MILREPs when on travel or during after-hours emergencies, the local FAA sponsor will consider providing FAA cellular support to their MILREPs, such as integrating FAA or compatible DoD-owned devices on the FAA network. Additionally, allow DoD access to install Defense Switched Network (DSN) telephone service in FAA facilities, as required.

4.1.4.4. Installation of unique DoD required software program(s) as required, with applicable FAA compliance and network security review.

4.1.4.5. Technical information support to MILREPs to provide ability to archive DoD-specific information, to include email, correspondence, and other types of data.

4.1.4.6. Provide access to existing FAA secure/classified network computer terminals and organizational email address as required, with applicable FAA compliance and network security review. NOTE: The majority of MILREP communications are on unclassified networks, but access to classified networks may be necessary for periodic communications.

4.1.5. Provide the MILREPs with logistics support to include office supplies, office furniture, and IT equipment.

4.1.6. Provide the MILREPs with access to classified storage, up to "TOP SECRET" level, as required.

4.1.7. Provide the MILREPs with access to General Services Administration (GSA) vehicles/motor pools, personal vehicle parking spaces, and FAA-sponsored transportation commensurate with FAA equivalent standards.

4.2. The DoD will—

4.2.1. Establish and provide appropriate personnel to staff MILREP offices at HQ FAA and Regional Service Area offices. Manpower authorizations may vary due to individual Military Service staff reorganizations, and will be updated during periodic reviews of this MOA.

Table 1. Current DoD MILREP Authorizations

Military Service MILREP	HQ	East	Central	West**
Air Force	1	2***	1	2***
Army	2	3	3	5
Navy	1	2	2	2
Marine Corps	1	1	-	1

*All Eastern Service Area MILREPs also cover Puerto Rico and U.S. Virgin Islands

** All Western Service Area MILREPs also cover Alaska, Hawaii, Guam and Kwajalein

*** USAF MILREPs include one full-time Active Duty and one part-time Reservist (two total)

4.2.1.1. MILREPs assigned to Regional Service Area HQs will represent associated districts.

4.2.2. Provide appropriate personnel support for MILREPs, to include Individual Service Support Agreements with the nearest military installation(s), as required.

4.2.3. Provide for MILREPs to have access to DSN telephone service, as required.

4.2.4. Ensure MILREPs are informed of DoD issues and coordinate with FAA staff on all matters of mutual interest. FAA MILREPs will keep their Military Service HQ elements, the DoD Policy Board on Federal Aviation (PBFA), and/or applicable FAA offices aware of operational, technical, and administrative aviation/airspace related matters that could mutually impact the FAA and the DoD.

5. PERSONNEL: Each Party is responsible for costs of its personnel, to include pay, benefits, and travel. Each Party is responsible for supervision and management of its personnel.

6. GENERAL PROVISIONS:

6.1. POINTS OF CONTACT: The following points of contact will be used by the Parties to communicate in the implementation of this MOA. Each Party may change its points of contact upon reasonable notice to the other Party.

6.1.1. For the FAA—

6.1.1.1. HQ FAA Mission Support Services; (202) 267-8261.

6.1.2. For the DoD—

Appendix 4. Document 2 (continued)

6.1.2.1. Air Force: HQ USAF/A30J; Chief, Military/Civil Aviation Integration Division, (703) 693-4427.

6.1.2.2. Army: Commander, U.S. Army Aeronautical Services Agency (USAASA); (703) 806-4862.

6.1.2.3. Navy: Director, OPNAV N98/Naval Airspace and Air Traffic Control Standards & Evaluation Agency (NAATSEA); (703) 695-8534.

6.1.2.4. Marine Corps: HQ Marine Corps Aviation, APX; (202) 267-8439.

6.2. CORRESPONDENCE: All correspondence to be sent and notices to be given pursuant to this MOA will be addressed to the following:

6.2.1. For the FAA: FAA Mission Support Services (AJV-0), FAA HQ, 800 Independence Ave., SW, Suite 400E, Washington DC 20591.

6.2.2. For the DoD: Attention DoD Policy Board on Federal Aviation (PBFA) Secretariat, 1480 Air Force Pentagon, Washington DC 20330; (202) 404-2955; osd.pentagon.ousd-atl.mbx.dod-pbfa-secretariat@mail.mil.

6.3. FUNDS AND MANPOWER: This MOA does not document nor provide for the exchange of funds or manpower between the Parties nor does it make any commitment of funds or resources.

6.4. MODIFICATION OF MOA: This MOA may only be modified by the written agreement of the Parties, duly signed by their authorized representatives. This MOA will be reviewed every five years, on or around the anniversary of its effective date.

6.5. DISPUTES: Any disputes relating to this MOA will, subject to any applicable law, Executive Order, directive, or instruction, be resolved by consultation between the Parties.

6.6. TERMINATION OF UNDERSTANDING: This MOA may be terminated by either Party upon 180 days advanced written notice to the other Party.

6.7. TRANSFERABILITY: This MOA is not transferable except with the written consent of the Parties.

6.8. ENTIRE UNDERSTANDING: It is expressly understood and agreed that this MOA embodies the entire understanding between the Parties regarding this MOA's subject matter.

6.9. EFFECTIVE DATE: This MOA takes effect beginning on the day after the last Party signs.

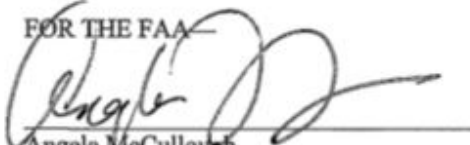
6.10. EXPIRATION DATE: This MOA will expire 10 years from the date the last Party signs.

Appendix 4. Document 2 (continued)

6.11. CANCELLATION OF PREVIOUS MOA: This MOA cancels and supersedes the previously signed MOA between the same Parties with the subject "MILITARY REPRESENTATIVES," and effective date of May 21, 2013.

APPROVED:

FOR THE FAA—



Angela McCullough
Vice President, Mission Support Services

7/11/19
(Date)

FOR THE DOD—



Rowayne A. Schatz, Jr., SES
DoD PBFA Executive Director

23 JUL 2019
(Date)

Document 3

SPEED AUTHORIZATION GRANTED TO DOD

U.S. Department
of Transportation
**Federal Aviation
Administration**

System Operations Services
800 Independence Avenue, SW.
Washington, DC 20591

DEL 05 2008

Mr. Gerald F. Pease Jr.
Department of Defense Policy Board
on Federal Aviation
1480 Air Force Pentagon 5D756
Washington, DC 20330-1480

Dear Mr. Pease:

Title 14, Code of Federal Regulations (CFR), part 91, section 91.117, requires that unless otherwise authorized by the Administrator, no person may operate an aircraft below 10,000 feet MSL at an indicated airspeed greater than 250 knots (288 m.p.h.).

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 operate at that minimum safe airspeed.

In recognition of the fact that certain operational and training requirements cannot be met under the terms of the regulation, the Department of Defense (DOD), since May 18, 1978, has been authorized to operate aircraft below 10,000 feet mean sea level (MSL) at an indicated airspeed of more than 250 knots to the extent such high-speed operations were necessary to accomplish operational and training requirements.

Our authorization of May 18, 1978 is rescinded and reissued as follows:

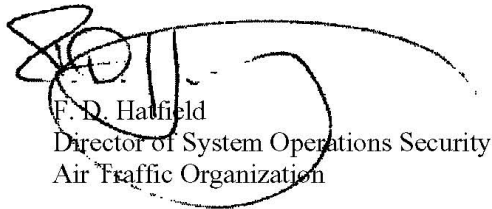
Operations below 10,000 feet MSL at an indicated airspeed in excess of 250 knots, in noncompliance with CFR, section 91.117, are authorized for the United States and foreign military aircraft, including Reserve and Air National Guard aircraft, under the following conditions:

- a. Within restricted areas.
- b. Within military operations areas.
- c. When operating within large-scale or on short-term special missions, coordination will be effected to ensure awareness on the part of the nonparticipating flying public.

- d. When operating on DOD/FAA mutually developed and published instruments routes (IR).
- e. When operating on DOD developed and published visual routes (VR).
- f. In the event provisions a through e cannot be complied with, the appropriate military headquarters may authorize flight operations within defined airspace in noncompliance with CFR, section 91.117, as it is considered 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 with by the appropriate military/FAA regional authority, but not yet published.
- g. If the airspeed required or recommended in the aircraft flight manual to maintain safe maneuverability is greater than the maximum speed described in CFR, section 91.117, 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.

Sincerely



F. D. Hatfield
Director of System Operations Security
Air Traffic Organization

Appendix 4. Document 4

Grant of Exemption No. 2861A – Single Altimeter Setting for Frequent Transit of FL180

NOTE-

This exemption originally applied to 14 CFR 91.81, Altimeter Settings, but now applies to 14 CFR 91.121, Altimeter Settings. However, the wording in the current CFR is identical to the original and the exemption continues.

Exemption No. 2861A

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591

* * * * *
In the matter of the petition of
DEPARTMENT OF DEFENSE
to provide an amended Exemption from
Section 91.81 of the Federal Aviation
Regulations

GRANT OF EXEMPTION

By letter dated January 17, 1980, the Department of Defense (DOD) petitioned the Federal Aviation Administration (FAA) to amend Exemption No. 2861 to enable DOD aircraft to use either the standard altimeter setting of 29.92 inches Hg. or a current station altimeter setting while conducting aerial training maneuvers in certain special use airspace.

On October 17, 1979, the FAA issued Exemption No. 2861 to the DOD to provide DOD aircraft relief from altimeter setting provisions of Federal Aviation Regulation (FAR) Section 91.81. Under the exemption, DOD aircraft are not required to change altimeter settings during high speed maneuvers which result in rapid transits of flight level (FL) 180 that occur while conducting serial training exercises within military operations areas (MOAs) or restricted areas. Condition 3 of the exemption imposes the use of a standard altimeter setting of 29.92 inches Hg. A summary of the DOD petition to amend the exemption was published in the Federal Register on February 28, 1980 (45 FR 13245). No comments were received.

FAR Section 91.81(a)(1) requires, in part, that each aircraft operated below 18,000 feet mean sea level (MSL) maintain cruising altitude by reference to an altimeter that is set to the current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft. When the aircraft is operated at or above 18,000 feet MSL, the altimeter must be set to 29.92 inches Hg., as required by FAR Section 91.81(a)(2).

Exemption No. 2861 permits DOD aircraft to transit FL 180 contrary to the altimeter setting provisions of FAR Section 91.81 while operating under the exemption in MOAs and restricted areas. An MOA is an airspace assignment of defined vertical and lateral dimensions established outside positive control airspace to separate/segregate certain military activities from instrument flight rule (IFR) traffic and to identify for visual flight rule (VFR) traffic where these activities are conducted. High speed tactical operations are conducted within these MOAs. Restricted areas, designated under FAR Part 73, are often joint use and IFR/VFR operations may be authorized by the controlling air traffic control (ATC) facility when utilized by the using agency.

In addition to MOAs and restricted areas referred to in Exemption 2861, this exemption covers DOD training maneuvers conducted in Air Traffic Control Assigned Airspace (ATCAA). ATCAAs are described in the Pilot/Controller Glossary of FAA Order 7110.65B, "Air Traffic Control," as 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. ATCAAs are given consideration herein in light of the fact that MOAs are generally established only up to but not including FL 180, which is below positive control area (PCA) where ATC controls all air traffic. Military operations conducted above FL 180 in accordance with the provisions of this exemption shall be contained within ATCAAs, wherein use of station pressure altimeter settings require prior relief from Section 91.81(a)(2).

While Exemption No. 2861 relieved DOD aircraft from making frequent altimeter setting changes, it did impose the condition that only the 29.92 inches Hg. setting be used by aircraft operating under the exemption. It was believed this condition would be especially advantageous to those operating under the exemption since their altitude calculation procedures would be the same wherever the operation occurred, resulting in safety benefits. It was believed this standardization would aid in preserving the integrity of charted boundaries and altitudes while placing full reliance and responsibility on user pilots to remain well within the geographical and altitude limits of the special use airspace areas. However, self-containment became more of a problem than anticipated. The DOD petitioned, contending that the condition was overly restrictive and resulted in numerous requests to use station altimeter settings for reasons of flight safety. The petitioner stated that many DOD flights conducted in MOAs require operations near the terrain in which case the altimeter setting of 29.92 inches Hg. could result in inadequate terrain clearance.

It should be noted that in an earlier exemption, Exemption No. 2082, the U.S. Air Force was provided general relief from altimeter setting requirements of Section 91.81. In absence of any other altimeter setting conditions, the earlier exemption permitted use of either the standard 29.92 or the current station altimeter setting. The DOD requests this same flexibility, as expressed by their operating units' preference to use station altimeter settings and the professed operational difficulty in maintaining adequate terrain clearance.

In addition to DOD preference, FAA regions reported the controlled use of station altimeter settings by Air Force aircraft operating under the previous exemption was successful and the regions have asked that the provision be reinstated. In light of the past success of operations under Exemption No. 2082 and the reluctance of DOD aircraft to use the standard 29.92 setting, the mandatory requirement to use 29.92 inches Hg. is considered unnecessary. Therefore, the option to select a station altimeter setting, subject to appropriate altitude and boundary safety provisions in a letter of agreement with the controlling ATC facility, should be extended to DOD.

In consideration of the foregoing, I find that an exemption, subject to certain conditions and limitations, is in the public interest. Therefore, pursuant to the authority contained in Section 307(e) of the Federal Aviation Act of 1958, as amended, which has been delegated to me under Section 11.53 of the Federal Aviation Regulations, the Department of Defense is hereby granted an exemption from provisions of Section 91.81 of the Federal Aviation Regulations to the extent necessary to conduct those high speed tactical maneuvers that include rapid transits of FL 180 as follows:

1. For the purposes of this exemption, Air Traffic Control Assigned Airspace (ATCAA) is defined as that 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 controlled air traffic.

2. This exemption applies only to aircraft conducting DOD approved training involving high speed tactical maneuvers in established MOAs, restricted areas, and ATCAAs.

3. All operations under this exemption must be conducted within the boundaries and altitudes of established MOAs, restricted areas, and ATCAAs. In addition, they must be conducted under a letter of agreement with the ATC facility having jurisdiction over the airspace areas to include provision for safe altitude clearance between DOD aircraft and other aircraft operating within, above, and below MOAs, restricted areas, and ATCAAs.

4. The DOD is responsible for assuring all operations conducted under this exemption are accomplished within the boundaries and altitudes of the MOAs, restricted areas, and ATCAAs with appropriate clearance of terrain, obstacles, other aircraft and persons and property on the ground.

5. This exemption supersedes Exemption No. 2861 issued to the Department of Defense dated October 17, 1979.

This exemption is effective immediately and shall continue in effect until superseded or rescinded by the Federal Aviation Administration.

/s/ Ramon A. Alvarez
Acting Director,
Air Traffic Service

Issued in Washington, D.C., on
June 30, 1980.

