

**CHANGE**

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

**JO 7210.3DD  
CHG 2**

**Air Traffic Organization Policy**

**Effective Date:**  
March 21, 2024

**SUBJ:** Facility Operation and Administration

---

- 1. Purpose of This Change.** This change transmits revised pages to Federal Aviation Administration Order JO 7210.3DD, Facility Operation and Administration, and the Briefing Guide.
- 2. Audience.** This change applies to all Air Traffic Organization (ATO) personnel and anyone using ATO directives.
- 3. Where Can I Find This Change?** This change is available on the FAA website at [http://faa.gov/air\\_traffic/publications](http://faa.gov/air_traffic/publications) and [https://employees.faa.gov/tools\\_resources/orders\\_notices/](https://employees.faa.gov/tools_resources/orders_notices/).
- 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.
- 5. Distribution.** This change is distributed electronically to all who subscribe to receive email notification 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/](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](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 Disposition of Transmittal.** Retain this transmittal until superseded by a new basic order.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.

Natasha A. Durkins  
Digitally signed by  
Natasha A. Durkins  
Date: 2024.02.09  
13:54:37 -05'00'

Natasha A. Durkins  
Vice President, Mission Support Services  
Air Traffic Organization



# Explanation of Changes

## Change 2

### Direct questions through appropriate facility/service center office staff to the office of primary responsibility (OPR)

#### a. 2-1-31. REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES

This change to subparagraph 2-1-31b4 modifies the phantom transmission language, adds examples, and adds a new reference to FAA Order JO 7110.65, paragraph 2-4-6, False or Deceptive Communications. This change to 2-1-31b10 deletes language pertaining to unmanned aircraft systems (UAS) reporting; adds a new reference to FAA Order JO 7210.3, paragraph 2-1-34, Reporting Suspicious UAS Activities; and relocates the reference for FAA Order JO 7110.65, paragraph 2-1-2, Duty Priority, to subparagraph 2-1-31a. Additional changes throughout paragraph 2-1-31 include editorial changes and other edits for clarity.

#### b. 2-2-14. FACILITY DIRECTIVES REPOSITORY (FDR)

This change to paragraph 2-2-14, Facility Directives Repository, provides an update to organizational information, simplifies the paragraph, and makes additional editorial changes not affecting policy.

#### c. 3-5-3. PROCESSING GPS ANOMALY REPORTS

This change adds the GPS anomaly reporting website, including a contact number and email address for contacting the primary intake teams. It also removes the associated note in the paragraph.

#### d. 20-2-4. ISSUING TFRs

This change consolidates paragraph 20-2-4, subparagraphs b and e, to provide related and actionable information, including the System Operations Support Center (SOSC) phone number, concurrently. This change cancels and incorporates Notice JO 7210.946, Issuing Temporary Flight Restrictions (TFRs), which was effective November 27, 2023.

#### e. Editorial Changes

Editorial changes include revising the term Chart Supplement U.S. to Chart Supplement as a result of the Chart Supplement Modernization Initiative; removing a duplicate “ground control” entry in TBL 1-2-1; replacing Operations Headquarters, AJT-2, with their current office name as Operational Policy and Implementation, AJT-2; plus minor formatting tweaks as needed.

#### f. Entire Publication

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



## PAGE CONTROL CHART Change 2

REMOVE PAGES	DATED	INSERT PAGES	DATED
Table of Contents i through xxvi . . . . .	10/5/23	Table of Contents i through xxvi . . . . .	3/21/24
1-1-3 . . . . .	10/5/23	1-1-3 . . . . .	3/21/24
1-2-3 through 1-2-5 . . . . .	4/20/23	1-2-3 through 1-2-5 . . . . .	3/21/24
2-1-9 . . . . .	4/20/23	2-1-9 . . . . .	4/20/23
2-1-10 . . . . .	10/5/23	2-1-10 . . . . .	3/21/24
2-1-17 through 2-1-24 . . . . .	10/5/23	2-1-17 through 2-1-25 . . . . .	3/21/24
2-2-7 and 2-2-8 . . . . .	4/20/23	2-2-7 and 2-2-8 . . . . .	3/21/24
2-9-1 . . . . .	4/20/23	2-9-1 . . . . .	4/20/23
2-9-2 . . . . .	4/20/23	2-9-2 . . . . .	3/21/24
3-5-1 . . . . .	4/20/23	3-5-1 . . . . .	4/20/23
3-5-2 and 3-5-3 . . . . .	4/20/23	3-5-2 and 3-5-3 . . . . .	3/21/24
3-6-1 . . . . .	4/20/23	3-6-1 . . . . .	3/21/24
3-6-2 and 3-6-3 . . . . .	4/20/23	3-6-2 and 3-6-3 . . . . .	4/20/23
3-6-4 and 3-6-5 . . . . .	4/20/23	3-6-4 and 3-6-5 . . . . .	3/21/24
3-8-3 through 3-8-7 . . . . .	10/5/23	3-8-3 through 3-8-7 . . . . .	3/21/24
3-8-8 . . . . .	4/20/23	3-8-8 . . . . .	4/20/23
4-6-3 and 4-6-4 . . . . .	4/20/23	4-6-3 and 4-6-4 . . . . .	3/21/24
10-3-3 . . . . .	4/20/23	10-3-3 . . . . .	3/21/24
10-3-4 . . . . .	4/20/23	10-3-4 . . . . .	4/20/23
10-3-9 . . . . .	10/5/23	10-3-9 . . . . .	3/21/24
10-3-10 . . . . .	4/20/23	10-3-10 . . . . .	4/20/23
10-4-5 . . . . .	10/5/23	10-4-5 . . . . .	3/21/24
10-4-6 and 10-4-7 . . . . .	10/5/23	10-4-6 and 10-4-7 . . . . .	10/5/23
10-4-8 through 10-4-10 . . . . .	10/5/23	10-4-8 through 10-4-10 . . . . .	3/21/24
12-1-1 . . . . .	4/20/23	12-1-1 . . . . .	3/21/24
12-1-2 . . . . .	4/20/23	12-1-2 . . . . .	4/20/23
14-1-1 . . . . .	4/20/23	14-1-1 . . . . .	3/21/24
14-1-2 . . . . .	4/20/23	14-1-2 . . . . .	4/20/23
15-1-1 . . . . .	4/20/23	15-1-1 . . . . .	3/21/24
15-1-2 . . . . .	4/20/23	15-1-2 . . . . .	4/20/23
15-2-1 . . . . .	4/20/23	15-2-1 . . . . .	3/21/24
15-2-2 . . . . .	4/20/23	15-2-2 . . . . .	4/20/23
18-7-1 and 18-7-2 . . . . .	4/20/23	18-7-1 and 18-7-2 . . . . .	3/21/24
18-17-1 through 18-17-3 . . . . .	4/20/23	18-17-1 through 18-17-3 . . . . .	3/21/24
19-4-1 . . . . .	4/20/23	19-4-1 . . . . .	3/21/24
20-1-1 . . . . .	4/20/23	20-1-1 . . . . .	3/21/24

20-1-2 .....	4/20/23	20-1-2 .....	4/20/23
20-2-1 and 20-2-2 .....	4/20/23	20-2-1 and 20-2-2 .....	3/21/24
21-4-1 .....	4/20/23	21-4-1 .....	3/21/24
21-4-2 .....	4/20/23	21-4-2 .....	4/20/23
Index I-1 through I-11 .....	10/5/23	Index I-1 through I-11 .....	3/21/24

# Table of Contents

## Part 1. BASIC

### Chapter 1. General

#### Section 1. Introduction

<b>Paragraph</b>	<b>Page</b>
1-1-1. PURPOSE OF THIS ORDER .....	1-1-1
1-1-2. AUDIENCE .....	1-1-1
1-1-3. WHERE TO FIND THIS ORDER .....	1-1-1
1-1-4. WHAT THIS ORDER CANCELS .....	1-1-1
1-1-5. EXPLANATION OF CHANGES .....	1-1-1
1-1-6. EFFECTIVE DATES AND SUBMISSIONS FOR CHANGES .....	1-1-1
1-1-7. DELIVERY DATES .....	1-1-2
1-1-8. RECOMMENDATIONS FOR PROCEDURAL CHANGES .....	1-1-2
1-1-9. CONSTRAINTS GOVERNING SUPPLEMENTS AND PROCEDURAL DEVIATIONS .....	1-1-2
1-1-10. SAFETY MANAGEMENT SYSTEM (SMS) .....	1-1-3
1-1-11. REFERENCES TO FAA NON-AIR TRAFFIC ORGANIZATION .....	1-1-3
1-1-12. DISTRIBUTION .....	1-1-3

#### Section 2. Order Use

1-2-1. POLICY .....	1-2-1
1-2-2. ANNOTATIONS .....	1-2-1
1-2-3. WORD MEANINGS .....	1-2-1
1-2-4. ABBREVIATIONS .....	1-2-1

### Chapter 2. Administration of Facilities

#### Section 1. General

2-1-1. INTERREGIONAL REQUIREMENTS .....	2-1-1
2-1-2. FACILITY STANDARD OPERATING PROCEDURES DIRECTIVE .....	2-1-1
2-1-3. POSITION/SECTOR BINDERS .....	2-1-1
2-1-4. REFERENCE FILES .....	2-1-2
2-1-5. RELEASE OF INFORMATION .....	2-1-2
2-1-6. CHECKING ACCURACY OF PUBLISHED DATA .....	2-1-3
2-1-7. AIR TRAFFIC SERVICE DURING PLANNED AND UNPLANNED OUTAGES ..	2-1-3
2-1-8. OPERATIONS DURING A STAFFING CONSTRAINT .....	2-1-6
2-1-9. HANDLING BOMB THREAT INCIDENTS .....	2-1-7
2-1-10. HANDLING MANPADS INCIDENTS .....	2-1-8
2-1-11. AIRPORT EMERGENCY PLANS .....	2-1-8
2-1-12. EXPLOSIVES DETECTION K-9 TEAMS .....	2-1-9
2-1-13. INTERSECTION TAKEOFFS .....	2-1-10
2-1-14. AIRCRAFT IDENTIFICATION PROBLEMS .....	2-1-10
2-1-15. APPROACH CONTROL AIRSPACE .....	2-1-11
2-1-16. AUTHORIZATION FOR SEPARATION SERVICES BY TOWERS .....	2-1-11

<b>Paragraph</b>	<b>Page</b>
2-1-17. BIRD HAZARDS .....	2-1-12
2-1-18. PROHIBITED/RESTRICTED AREAS AND STATIONARY ALTRVS .....	2-1-12
2-1-19. SPECIAL ACTIVITY AIRSPACE (SAA) SCHEDULING, COORDINATION, AND DISSEMINATION .....	2-1-13
2-1-20. SPECIAL AIR TRAFFIC RULES (SATR) AND SPECIAL FLIGHT RULES AREA (SFRA) .....	2-1-13
2-1-21. ATC SECURITY SERVICES FOR THE WASHINGTON, DC, SPECIAL FLIGHT RULES AREA (DC SFRA) .....	2-1-14
2-1-22. AIRPORT TRAFFIC PATTERNS .....	2-1-15
2-1-23. OBSTACLE IDENTIFICATION SURFACES, OBSTACLE FREE ZONES, RUNWAY SAFETY AREAS, APPROACH/ DEPARTURE HOLD AREAS, AND CLEARWAYS .....	2-1-15
2-1-24. FACILITY IDENTIFICATION .....	2-1-15
2-1-25. DISPOSITION OF OBSOLETE CHARTS .....	2-1-15
2-1-26. OUTDOOR LASER DEMONSTRATIONS .....	2-1-16
2-1-27. COMBINE/RECOMBINE AN ATCT/TRACON .....	2-1-16
2-1-28. SUBMISSION OF AIR TRAFFIC CONTROL ASSIGNED AIRSPACE (ATCAA) DATA .....	2-1-16
2-1-29. SUBMISSION OF SUA AND PAJA FREQUENCY INFORMATION .....	2-1-16
2-1-30. REPORTING UNAUTHORIZED LASER ILLUMINATION OF AIRCRAFT ....	2-1-16
2-1-31. REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES .....	2-1-17
2-1-32. REPORTING DIVERTED AIRCRAFT ARRIVING FROM INTERNATIONAL LOCATIONS .....	2-1-18
2-1-33. REPORTING INOPERATIVE OR MALFUNCTIONING ADS-B TRANSMITTERS .....	2-1-18
2-1-34. REPORTING SUSPICIOUS UAS ACTIVITIES .....	2-1-19
2-1-35. USE OF UAS DETECTION SYSTEMS .....	2-1-20
2-1-36. USE OF COUNTER UNMANNED AIRCRAFT SYSTEMS (C-UAS) .....	2-1-20
2-1-37. REPORTING DEATH, ILLNESS, OR OTHER PUBLIC HEALTH RISK ON BOARD AIRCRAFT .....	2-1-21
2-1-38. OPPOSITE DIRECTION OPERATIONS .....	2-1-22
2-1-39. SPECIAL INTEREST SITES .....	2-1-23
2-1-40. TRANSPORTATION SECURITY ADMINISTRATION AND FAA JOINT OPERATING PROCEDURES .....	2-1-24
2-1-41. DISPLAYING SPACE LAUNCH AND REENTRY AREAS ON THE SITUATION DISPLAY .....	2-1-24
2-1-42. DISPLAYING DEBRIS RESPONSE AREAS ON THE SITUATION DISPLAY ...	2-1-24
2-1-43. ACCESS TO FALCON REPLAY SYSTEM .....	2-1-24

**Section 2. Responsibilities**

2-2-1. LEGAL LIABILITIES OF PERSONNEL .....	2-2-1
2-2-2. JOB REQUIREMENTS .....	2-2-1
2-2-3. POSITION RESPONSIBILITY .....	2-2-1
2-2-4. DUTY FAMILIARIZATION AND THE TRANSFER OF POSITION RESPONSIBILITY .....	2-2-1
2-2-5. OPERATING INITIALS .....	2-2-3
2-2-6. SIGN IN/OUT AND ON/OFF PROCEDURES .....	2-2-4
2-2-7. CIRNOT HANDLING .....	2-2-5
2-2-8. GENOT HANDLING .....	2-2-5
2-2-9. PERSONNEL BRIEFINGS REGARDING AIR TRAFFIC PROCEDURES BULLETIN ITEMS .....	2-2-5
2-2-10. LAW ENFORCEMENT INFORMATION .....	2-2-6
2-2-11. PERSONNEL BRIEFINGS REGARDING ORDERS, PUBLISHED AERONAUTICAL DATA, AND FLIGHT PROCEDURES .....	2-2-6



<b>Paragraph</b>	<b>Page</b>
2-2-12. SYSTEMS MANAGEMENT OF VSCS EQUIPMENT .....	2-2-7
2-2-13. REPORTING EQUIPMENT TROUBLE .....	2-2-7
2-2-14. FACILITY DIRECTIVES REPOSITORY (FDR) .....	2-2-7

**Section 3. Air Traffic Familiarization/Currency Requirements for En Route/Terminal/System Operations Facilities**

2-3-1. GENERAL .....	2-3-1
2-3-2. APPLICATION .....	2-3-1
2-3-3. REQUIREMENTS .....	2-3-1
2-3-4. DIFFERENTIAL .....	2-3-3
2-3-5. TRACKING .....	2-3-3

**Section 4. Hours of Duty**

2-4-1. SERVICE HOURS .....	2-4-1
2-4-2. TIME STANDARDS .....	2-4-1
2-4-3. TIME CHECKS .....	2-4-1
2-4-4. STATUS OF SERVICE .....	2-4-1

**Section 5. Watch Coverage-Flight Service Stations**

2-5-1. BASIC WATCH SCHEDULES .....	2-5-1
2-5-2. DESIGNATING WATCH SUPERVISION COVERAGE .....	2-5-1
2-5-3. AREA SUPERVISION .....	2-5-1
2-5-4. RELIEF PERIODS .....	2-5-2
2-5-5. OVERTIME DUTY .....	2-5-2
2-5-6. HOLIDAY STAFFING .....	2-5-2
2-5-7. CONSOLIDATING POSITIONS .....	2-5-2
2-5-8. SUPERVISORS HOURS OF DUTY (ALASKA ONLY) .....	2-5-2
2-5-9. FACILITY COMPLEMENTS .....	2-5-2
2-5-10. CONTROLLER-IN-CHARGE (CIC)/DESIGNATED LEAD SPECIALIST (DLS) TRAINING .....	2-5-3

**Section 6. Watch Supervision-Terminal/En Route**

2-6-1. WATCH SUPERVISION .....	2-6-1
2-6-2. WATCH SUPERVISION ASSIGNMENTS .....	2-6-1
2-6-3. CONTROLLER-IN-CHARGE (CIC) DESIGNATION .....	2-6-2
2-6-4. CONTROLLER-IN-CHARGE (CIC) SELECTION PROCESS .....	2-6-3
2-6-5. CONSOLIDATING POSITIONS .....	2-6-4
2-6-6. RELIEF PERIODS .....	2-6-4
2-6-7. BASIC WATCH SCHEDULE .....	2-6-4
2-6-8. OVERTIME DUTY .....	2-6-5
2-6-9. HOLIDAY STAFFING .....	2-6-5
2-6-10. ADMINISTRATIVE HOURS OF DUTY .....	2-6-5
2-6-11. FACILITY COMPLEMENTS .....	2-6-5
2-6-12. CONSOLIDATING TOWER/TRACON FUNCTIONS .....	2-6-5
2-6-13. SINGLE PERSON MIDNIGHT OPERATIONS .....	2-6-6

**Section 7. Appearance and Security**

2-7-1. PERSONNEL APPEARANCE .....	2-7-1
-----------------------------------	-------

<b>Paragraph</b>	<b>Page</b>
2-7-2. QUARTERS APPEARANCE .....	2-7-1
2-7-3. BULLETIN BOARDS .....	2-7-1
2-7-4. FOOD AND BEVERAGES .....	2-7-1
2-7-5. FACILITY SECURITY .....	2-7-1
2-7-6. SUSPICIOUS ACTIVITIES AROUND AIRPORTS OR FAA FACILITIES .....	2-7-1
2-7-7. COOPERATION WITH LAW ENFORCEMENT AGENCIES .....	2-7-1
2-7-8. FACILITY VISITORS .....	2-7-2
2-7-9. SECURITY OF JOINT-USE RADAR DATA .....	2-7-2

**Section 8. Medical**

2-8-1. GENERAL .....	2-8-1
2-8-2. MEDICAL CLEARANCE REQUIREMENTS .....	2-8-1
2-8-3. SPECIAL MEDICAL EVALUATIONS .....	2-8-1
2-8-4. SPECIAL CONSIDERATION .....	2-8-1
2-8-5. USE OF DRUGS AND SEDATIVES .....	2-8-1
2-8-6. RESTRICTED DRUGS .....	2-8-2
2-8-7. BLOOD DONORS .....	2-8-2
2-8-8. USE OF ALCOHOL AND OTHER DRUGS .....	2-8-2
2-8-9. MEDICAL STATUS DETERMINATIONS ON FG-2154s .....	2-8-2

**Section 9. Weather/Visibility**

2-9-1. BACKUP/AUGMENTATION OF WEATHER OBSERVATIONS .....	2-9-1
2-9-2. RECEIPT AND DISSEMINATION OF WEATHER OBSERVATIONS .....	2-9-1
2-9-3. LIMITED AVIATION WEATHER REPORTING STATION (LAWRS) HOURS OF OPERATION .....	2-9-1
2-9-4. NONAVIATION WEATHER SERVICE .....	2-9-2
2-9-5. NATIONAL WEATHER RECORDS CENTER .....	2-9-2
2-9-6. VISIBILITY CHARTS .....	2-9-2
2-9-7. SITING CRITERIA FOR VISUAL WEATHER OBSERVATIONS .....	2-9-2
2-9-8. RUNWAY VISUAL RANGE (RVR) EQUIPMENT .....	2-9-3
2-9-9. SPECIFIC AREA MESSAGE ENCODING (SAME) WEATHER RADIOS .....	2-9-3

**Section 10. Wind/Altimeter Information**

2-10-1. WIND INSTRUMENT SENSORS .....	2-10-1
2-10-2. WIND INDICATOR CROSS CHECK .....	2-10-1
2-10-3. ALTIMETER REQUIREMENTS .....	2-10-1
2-10-4. COMPARISON CHECKS .....	2-10-2
2-10-5. DELIVERY OF ALTIMETER SETTING TO ARTCC .....	2-10-3
2-10-6. BROADCAST DENSITY ALTITUDE ADVISORY .....	2-10-3

**Chapter 3. Facility Equipment**

**Section 1. General**

3-1-1. BASIC EQUIPMENT .....	3-1-1
3-1-2. PERIODIC MAINTENANCE .....	3-1-1
3-1-3. NATIONAL AIRSPACE SYSTEM (NAS) CHANGES .....	3-1-2
3-1-4. TRAFFIC LIGHTS, GATES, AND SIGNALS .....	3-1-2
3-1-5. CLEANING INSTRUMENT COVERS .....	3-1-2

<b>Paragraph</b>	<b>Page</b>
3-1-6. ENGINE GENERATOR TRANSFER PROCEDURES FOR ANTICIPATED POWER FAILURE .....	3-1-2

**Section 2. Use of Communications**

3-2-1. RESPONSIBILITY .....	3-2-1
3-2-2. AUTHORIZED MESSAGES NOT DIRECTLY ASSOCIATED WITH AIR TRAFFIC SERVICES .....	3-2-1
3-2-3. USE OF OTHER THAN FAA COMMUNICATIONS CIRCUITS .....	3-2-1
3-2-4. FBI USE OF FAA FREQUENCIES .....	3-2-1
3-2-5. AERONAUTICAL ADVISORY STATIONS (UNICOM/MULTICOM) .....	3-2-2

**Section 3. Communications Procedures**

3-3-1. SERVICE "F" COMMUNICATIONS .....	3-3-1
3-3-2. TELEPHONE COMMUNICATIONS .....	3-3-1
3-3-3. MONITORING FREQUENCIES .....	3-3-1
3-3-4. EMERGENCY FREQUENCIES 121.5 AND 243.0 MHz .....	3-3-1
3-3-5. BATTERY-POWERED TRANSCEIVERS .....	3-3-2
3-3-6. FACILITY STATUS REPORT .....	3-3-2
3-3-7. TESTING EMERGENCY LOCATOR TRANSMITTERS .....	3-3-2
3-3-8. VSCS FREQUENCY BACKUP .....	3-3-3
3-3-9. VSCS RECONFIGURATIONS .....	3-3-3
3-3-10. VTABS (VSCS TRAINING AND BACKUP SYSTEM) .....	3-3-3
3-3-11. HEADSET TONE INCIDENTS .....	3-3-4
3-3-12. USE OF CORDLESS HEADSETS IN OPERATIONAL AREAS .....	3-3-4

**Section 4. Recorders**

3-4-1. USE OF RECORDERS .....	3-4-1
3-4-2. ASSIGNMENT OF RECORDER CHANNELS .....	3-4-1
3-4-3. CHECKING AND CHANGING RECORDING EQUIPMENT .....	3-4-2
3-4-4. AUDIO DATA RETENTION .....	3-4-3

**Section 5. Navigational Aids**

3-5-1. NAVAID MONITORING .....	3-5-1
3-5-2. SYSTEM COMPONENT MALFUNCTIONS .....	3-5-2
3-5-3. PROCESSING GPS ANOMALY REPORTS .....	3-5-2
3-5-4. ORIGINATING NOTAMs CONCERNING NAVAIDs .....	3-5-3

**Section 6. Surveillance Source Use**

3-6-1. COMMISSIONING RADAR FACILITIES .....	3-6-1
3-6-2. ATC SURVEILLANCE SOURCE USE .....	3-6-2
3-6-3. MONITORING OF MODE 3/A RADAR BEACON CODES .....	3-6-3
3-6-4. RADAR TARGET SIZING .....	3-6-3
3-6-5. TERMINAL DIGITAL RADAR SYSTEM AND DISPLAY SETTINGS .....	3-6-3
3-6-6. PREARRANGED COORDINATION .....	3-6-4
3-6-7. OPERATIONAL GUIDANCE FOR FUSION .....	3-6-4

**Section 7. Video Maps**

3-7-1. TOLERANCE FOR RADAR FIX ACCURACY .....	3-7-1
---	-------

<b>Paragraph</b>	<b>Page</b>
3-7-2. RADAR MAPPING STANDARDS .....	3-7-1
3-7-3. DISPLAY MAP DATA .....	3-7-1
3-7-4. INTENSITY .....	3-7-2
3-7-5. COMMON REFERENCE POINTS .....	3-7-2

**Section 8. Other Displays**

3-8-1. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) FOR FACILITIES PROVIDING TERMINAL APPROACH CONTROL SERVICES .....	3-8-1
3-8-2. MINIMUM VECTORING ALTITUDE CHARTS (MVAC) PREPARATION (TERMINAL/MEARTS) .....	3-8-1
3-8-3. ALTITUDE ASSIGNMENTS TO S/VFR AND VFR AIRCRAFT .....	3-8-4
3-8-4. EMERGENCY OBSTRUCTION VIDEO MAP (EOVM) .....	3-8-5
3-8-5. ESTABLISHING DIVERSE VECTOR AREA/S (DVA) .....	3-8-6

**Section 9. Color Displays-Terminal**

3-9-1. COLOR USE ON ATC DISPLAYS .....	3-9-1
--	-------

**Chapter 4. Correspondence, Conferences, Records, and Reports**

**Section 1. General**

4-1-1. CORRESPONDENCE STANDARDS .....	4-1-1
4-1-2. SIGNATURE .....	4-1-1
4-1-3. SERVICE AREA REVIEW .....	4-1-1
4-1-4. CORRESPONDENCE REGARDING POLICY/PROCEDURES .....	4-1-1
4-1-5. IRREGULAR OPERATION .....	4-1-1
4-1-6. PRELIMINARY ENVIRONMENTAL REVIEW .....	4-1-1

**Section 2. User Coordination/Conferences/Publicity**

4-2-1. LOCAL COORDINATION/CONFERENCES .....	4-2-1
4-2-2. PILOT/CONTROLLER OUTREACH: OPERATION RAIN CHECK .....	4-2-1
4-2-3. PUBLISHED ITEMS .....	4-2-2
4-2-4. COORDINATION OF ATC PROCEDURES .....	4-2-2

**Section 3. Letters of Agreement (LOA)**

4-3-1. LETTERS OF AGREEMENT .....	4-3-1
4-3-2. APPROPRIATE SUBJECTS .....	4-3-2
4-3-3. DEVELOPING LOA .....	4-3-4
4-3-4. REVIEW BY SERVICE AREA OFFICE .....	4-3-5
4-3-5. APPROVAL .....	4-3-5
4-3-6. COMMERCIAL SPACE LOAs .....	4-3-5
4-3-7. HOT AIR BALLOON LOAs FOR CLASS C AIRSPACE .....	4-3-6
4-3-8. ANNUAL REVIEW/REVISIONS .....	4-3-6
4-3-9. CANCELLATION .....	4-3-6
4-3-10. AUTOMATED INFORMATION TRANSFER (AIT) .....	4-3-8

**Section 4. Application**

4-4-1. OPERATIONS UNDER EXEMPTIONS FROM SECTION 3 OF APPENDIX D TO PART 91 SURFACE AREAS OF CLASS B AND CLASS C AIRSPACE WITHIN WHICH SPECIAL VFR WEATHER MINIMUMS ARE NOT AUTHORIZED FOR FIXED-WING AIRCRAFT .....	4-4-1
---	-------

<b>Paragraph</b>	<b>Page</b>
4-4-2. USE OF AIRCRAFT CALL SIGNS .....	4-4-1
4-4-3. RUNWAY SUPERVISORY UNITS (RSU) .....	4-4-1

**Section 5. Other Correspondence**

4-5-1. LETTERS OF PROCEDURES .....	4-5-1
4-5-2. LETTERS TO AIRMEN .....	4-5-1
4-5-3. DISPOSITION OF VOLCANIC ACTIVITY REPORTING (VAR) FORMS .....	4-5-2

**Section 6. Records**

4-6-1. FACILITY RECORDS MANAGEMENT .....	4-6-1
4-6-2. COLLECTION OF OPERATIONAL DATA .....	4-6-1
4-6-3. FORMS PREPARATION .....	4-6-1
4-6-4. FAA FORM 7230-4, DAILY RECORD OF FACILITY OPERATION .....	4-6-1
4-6-5. PREPARATION OF FAA FORM 7230-4 .....	4-6-1
4-6-6. FAA FORM 7230-10, POSITION LOG .....	4-6-3
4-6-7. AUTOMATED POSITION SIGN ON/OFF .....	4-6-5
4-6-8. TIME AND ATTENDANCE (T&A) RECORDING .....	4-6-6

**Section 7. Reports**

4-7-1. MONTHLY REPORTS .....	4-7-1
4-7-2. DELAY REPORTING .....	4-7-1
4-7-3. SYSTEM IMPACT REPORTS .....	4-7-1
4-7-4. UNIDENTIFIED FLYING OBJECT (UFO) REPORTS .....	4-7-1

**Section 8. Freedom of Information Act (FOIA)**

4-8-1. ACCIDENT/INCIDENT RECORDINGS .....	4-8-1
4-8-2. RADAR AND/OR COMPUTER DATA .....	4-8-1
4-8-3. FEES .....	4-8-1

**Chapter 5. Special Flight Handling**

**Section 1. Presidential Aircraft**

5-1-1. ADVANCE COORDINATION .....	5-1-1
5-1-2. THE PRESIDENT, VICE PRESIDENT, AND EXEC1F AIRCRAFT MONITORING .....	5-1-2
5-1-3. USE OF FAA COMMUNICATIONS CIRCUITS .....	5-1-3
5-1-4. SECURITY OF INFORMATION .....	5-1-3
5-1-5. MOVEMENT INFORMATION .....	5-1-3
5-1-6. COORDINATION .....	5-1-3
5-1-7. RESCUE SUPPORT AIRCRAFT .....	5-1-3

**Section 2. FAA Aircraft**

5-2-1. IDENTIFYING DEPARTMENT OF TRANSPORTATION (DOT) AND FAA FLIGHTS .....	5-2-1
5-2-2. FLIGHT INSPECTION AIRCRAFT .....	5-2-1
5-2-3. HIGH ALTITUDE INSPECTIONS .....	5-2-1
5-2-4. RESEARCH AND DEVELOPMENT FLIGHTS .....	5-2-2

**Section 3. DOE and Other Aircraft**

5-3-1. DEPARTMENT OF ENERGY (DOE) FLIGHTS .....	5-3-1
---	-------

<b>Paragraph</b>	<b>Page</b>
5-3-2. AERIAL SAMPLING/SURVEYING FOR AIRBORNE CONTAMINATION . . . . .	5-3-1
5-3-3. DUE REGARD OPERATIONS . . . . .	5-3-1
5-3-4. WEATHER RECONNAISSANCE FLIGHTS . . . . .	5-3-2
5-3-5. FOREIGN STATE DIPLOMATIC FLIGHTS . . . . .	5-3-4

**Section 4. Other Flight Requests**

5-4-1. REQUESTS FOR DEVIATION FROM TRANSPONDER REQUIREMENTS . . . . .	5-4-1
5-4-2. REQUESTS FOR DEVIATION FROM ADS-B OUT REQUIREMENTS . . . . .	5-4-2
5-4-3. CROP DUSTER/ANTIQUE AIRCRAFT . . . . .	5-4-4
5-4-4. FLIGHT TEST OPERATIONS . . . . .	5-4-4
5-4-5. SANCTIONED SPEED RECORDS . . . . .	5-4-4
5-4-6. CERTIFYING RECORD ATTEMPTS . . . . .	5-4-4
5-4-7. PHOTOGRAMMETRIC FLIGHTS . . . . .	5-4-5
5-4-8. AEROBATIC PRACTICE AREAS . . . . .	5-4-5
5-4-9. ADS-B OUT OFF OPERATIONS . . . . .	5-4-6
5-4-10. AIRCRAFT CALL SIGNS USED FOR SENSITIVE GOVERNMENT FLIGHTS . . . . .	5-4-6

**Section 5. 14 CFR Part 91, UAS Operations**

5-5-1. TYPES AND AUTHORITY . . . . .	5-5-1
5-5-2. OPERATIONS . . . . .	5-5-1
5-5-3. RESPONSIBILITIES . . . . .	5-5-1
5-5-4. OPERATIONS IN CLASS A AIRSPACE . . . . .	5-5-2
5-5-5. OPERATIONS IN TERMINAL RADAR SERVICE AREA (TRSA) . . . . .	5-5-2
5-5-6. OPERATIONS IN CLASS B AIRSPACE . . . . .	5-5-2
5-5-7. OPERATIONS IN CLASS C AIRSPACE . . . . .	5-5-2
5-5-8. OPERATIONS IN CLASS D AIRSPACE . . . . .	5-5-3
5-5-9. OPERATIONS IN CLASS E AIRSPACE . . . . .	5-5-3
5-5-10. OPERATIONS IN CLASS G AIRSPACE . . . . .	5-5-3
5-5-11. LETTERS OF AGREEMENT (LOA)/MEMORANDUMS . . . . .	5-5-3

**Part 2. AIR ROUTE TRAFFIC CONTROL CENTERS**

**Chapter 6. En Route Operations and Services**

**Section 1. General**

6-1-1. AREAS OF OPERATION . . . . .	6-1-1
6-1-2. SECTORS . . . . .	6-1-1
6-1-3. SECTOR CONFIGURATION . . . . .	6-1-1
6-1-4. AREAS OF SPECIALIZATION . . . . .	6-1-1
6-1-5. OPERATING POSITION DESIGNATORS . . . . .	6-1-2
6-1-6. FLIGHT PROGRESS STRIP USAGE . . . . .	6-1-2
6-1-7. DISPLAY OF TIME-BASED FLOW MANAGEMENT (TBFM) INFORMATION . . . . .	6-1-3

**Section 2. Sector Information Binders**

6-2-1. EN ROUTE OR OCEANIC CONTROLLER TEAM CONCEPT . . . . .	6-2-1
6-2-2. EN ROUTE SECTOR INFORMATION BINDER . . . . .	6-2-1

**Section 3. Operations**

6-3-1. HANDLING OF SIGMETs, CWAs, AND PIREPs . . . . .	6-3-1
--	-------

<b>Paragraph</b>	<b>Page</b>
6-3-2. RECEIPT OF NOTAM DATA .....	6-3-2
6-3-3. REVIEW AIRSPACE STRUCTURE .....	6-3-2
6-3-4. FLIGHT DATA UNIT .....	6-3-2
6-3-5. CHANGES TO MTR AND MOA PUBLISHED ACTIVITY SCHEDULES .....	6-3-3

**Section 4. Services**

6-4-1. ADVANCE APPROACH INFORMATION .....	6-4-1
6-4-2. MINIMUM IFR ALTITUDES (MIA) .....	6-4-1
6-4-3. SPECIAL USE FREQUENCIES .....	6-4-1
6-4-4. PRACTICE INSTRUMENT APPROACHES .....	6-4-1

**Section 5. Air Carrier Computer Interface Program**

6-5-1. GENERAL .....	6-5-1
6-5-2. FACILITY RESPONSIBILITIES .....	6-5-1
6-5-3. CRITERIA FOR PARTICIPATION .....	6-5-1
6-5-4. FORMAT CONVENTIONS .....	6-5-1
6-5-5. MESSAGE CONTENT .....	6-5-1

**Section 6. En Route Decision Support Tool (EDST)**

6-6-1. GENERAL .....	6-6-1
6-6-2. OPERATIONS SUPERVISOR-IN-CHARGE RESPONSIBILITIES .....	6-6-1
6-6-3. OPERATIONS MANAGER-IN-CHARGE RESPONSIBILITIES .....	6-6-1
6-6-4. FACILITY MANAGER RESPONSIBILITIES .....	6-6-1
6-6-5. EDST AIRSPACE CONFIGURATION ELEMENTS .....	6-6-2
6-6-6. STANDARD USE OF AUTOMATED FLIGHT DATA MANAGEMENT .....	6-6-2
6-6-7. EDST OUTAGES .....	6-6-3
6-6-8. RESTRICTIONS INVENTORY AND EVALUATION .....	6-6-3
6-6-9. TRAFFIC COUNTS AND DELAY REPORTING .....	6-6-4
6-6-10. COMPUTER DATA RETENTION .....	6-6-4
6-6-11. WAIVER TO INTERIM ALTITUDE REQUIREMENTS .....	6-6-4
6-6-12. TRANSFER OF POSITION RESPONSIBILITY .....	6-6-4

**Section 7. Advanced Technologies and Oceanic Procedures (ATOP)**

6-7-1. GENERAL .....	6-7-1
6-7-2. OPERATIONAL SUPERVISOR-IN-CHARGE RESPONSIBILITIES .....	6-7-1
6-7-3. ERROR REPAIR POSITION RESPONSIBILITIES .....	6-7-1
6-7-4. FACILITY MANAGER RESPONSIBILITIES .....	6-7-1
6-7-5. TRANSFER OF POSITION .....	6-7-2
6-7-6. ATOP CHANNEL CHANGEOVERS .....	6-7-2
6-7-7. OUTAGES .....	6-7-2
6-7-8. CONTROLLER PILOT DATA LINK COMMUNICATIONS .....	6-7-2

**Section 8. Reduced Vertical Separation Minimum (RVSM)**

6-8-1. GENERAL .....	6-8-1
6-8-2. FACILITY MANAGER RESPONSIBILITIES .....	6-8-1
6-8-3. OPERATIONS MANAGER-IN-CHARGE RESPONSIBILITIES .....	6-8-2
6-8-4. OPERATIONS SUPERVISOR-IN-CHARGE/CONTROLLER-IN-CHARGE RESPONSIBILITIES .....	6-8-2

<b>Paragraph</b>	<b>Page</b>
6-8-5. NON-RVSM REQUIREMENTS .....	6-8-2
6-8-6. EQUIPMENT SUFFIX AND DISPLAY MANAGEMENT .....	6-8-3
6-8-7. MOUNTAIN WAVE ACTIVITY (MWA) .....	6-8-3
6-8-8. WAKE TURBULENCE AND WEATHER RELATED TURBULENCE .....	6-8-3
6-8-9. SUSPENSION OF RVSM .....	6-8-3

**Section 9. En Route Information Display System (ERIDS)**

6-9-1. GENERAL .....	6-9-1
6-9-2. REQUIREMENTS .....	6-9-1

**Chapter 7. En Route Data**

**Section 1. Performance Checks**

7-1-1. RADAR PERFORMANCE CHECKS .....	7-1-1
7-1-2. SPECIAL RADAR ACCURACY CHECKS .....	7-1-1

**Section 2. Deficiencies**

7-2-1. DEFICIENCIES IN SYSTEM .....	7-2-1
7-2-2. AMPLITRON OR PARAMETRIC AMPLIFIER FAILURE .....	7-2-1
7-2-3. ELECTRONIC ATTACK (EA) .....	7-2-1

**Chapter 8. NAS En Route Automation**

**Section 1. General**

8-1-1. TRANSITION PROCEDURES .....	8-1-1
8-1-2. ALTRV FLIGHT DATA PROCESSING .....	8-1-1
8-1-3. COMPUTER DATA RETENTION .....	8-1-2
8-1-4. FLIGHT PLAN DROP INTERVAL .....	8-1-2

**Section 2. Procedures**

8-2-1. THREE MILE OPERATIONS .....	8-2-1
8-2-2. ADAPTED ALTIMETER SETTINGS .....	8-2-1
8-2-3. ADAPTATION OF EXTERNAL ALTIMETER SETTINGS .....	8-2-1
8-2-4. CONFLICT ALERT FUNCTION PARAMETERS .....	8-2-1
8-2-5. MODE C INTRUDER (MCI) ALERT PARAMETERS .....	8-2-2
8-2-6. E-MSAW ADAPTATION .....	8-2-2
8-2-7. INTERIM ALTITUDE FACILITY DIRECTIVE REQUIREMENTS .....	8-2-2
8-2-8. REQUIREMENTS FOR ERAM DATA BLOCK CHANGES WITHOUT COORDINATION .....	8-2-2
8-2-9. ERAM HOLD INFORMATION FACILITY DIRECTIVE REQUIREMENTS .....	8-2-3
8-2-10. ERAM SPECIAL ACTIVITY AIRSPACE (SAA) ADAPTATION .....	8-2-3
8-2-11. ERAM HOLDING PATTERN ADAPTATION .....	8-2-3
8-2-12. ERAM MASTER TOOLBAR MAP BUTTON LABEL .....	8-2-4
8-2-13. LOCAL INTERIM ALTITUDE .....	8-2-4

**Section 3. Displays**

8-3-1. DIGITAL MAP VERIFICATION .....	8-3-1
---------------------------------------	-------



<b>Paragraph</b>	<b>Page</b>
8-3-2. DATA DISPLAY FOR BLOCK ALTITUDE FLIGHTS .....	8-3-1
8-3-3. SELECTED ALTITUDE LIMITS .....	8-3-1
8-3-4. AUTOMATED WEATHER DISPLAY STATUS .....	8-3-1

## **Chapter 9. Facility Statistical Data, Reports, and Forms**

### **Section 1. Operational Count Data**

9-1-1. IFR AIRCRAFT HANDLED .....	9-1-1
9-1-2. CATEGORIES OF OPERATIONS .....	9-1-1
9-1-3. CRITERIA FOR IFR AIRCRAFT HANDLED COUNT .....	9-1-1
9-1-4. MILITARY AIRCRAFT MOVEMENTS .....	9-1-3
9-1-5. USE OF AUTOMATED COUNTS .....	9-1-3
9-1-6. FAA FORM 7230-14, ARTCC OPERATIONS DAILY SUMMARY .....	9-1-3
9-1-7. INSTRUCTIONS FOR COMPLETING FAA FORM 7230-14 .....	9-1-3
9-1-8. DISTRIBUTION AND AMENDMENT .....	9-1-4

### **Section 2. Instrument Approach Data**

9-2-1. GENERAL .....	9-2-1
9-2-2. INSTRUMENT APPROACHES .....	9-2-1
9-2-3. AIRPORTS REPORTED .....	9-2-1
9-2-4. FAA FORM 7230-16, APPROACH DATA WORKSHEET .....	9-2-1
9-2-5. FAA FORM 7230-12, INSTRUMENT APPROACHES MONTHLY SUMMARY ..	9-2-1
9-2-6. DISTRIBUTION AND AMENDMENT .....	9-2-2
9-2-7. FORWARD COPY TO ADJACENT SERVICE AREA .....	9-2-2

### **Section 3. Other Reports and Forms**

9-3-1. FAA FORM 7210-8, ELT INCIDENT .....	9-3-1
--	-------

## **Part 3. TERMINAL AIR TRAFFIC CONTROL FACILITIES**

## **Chapter 10. Terminal Operations, Services, and Equipment**

### **Section 1. General**

10-1-1. OPERATING POSITION DESIGNATORS .....	10-1-1
10-1-2. TOWER/RADAR TEAM CONCEPTS .....	10-1-1
10-1-3. MILITARY ATC BOARDS .....	10-1-1
10-1-4. SECTIONAL AERONAUTICAL AND TERMINAL AREA CHARTS .....	10-1-2
10-1-5. AREAS OF NONVISIBILITY .....	10-1-2
10-1-6. SELECTING ACTIVE RUNWAYS .....	10-1-2
10-1-7. USE OF ACTIVE RUNWAYS .....	10-1-3
10-1-8. PROCEDURES FOR OPENING AND CLOSING RUNWAYS .....	10-1-4
10-1-9. FLIGHT PROGRESS STRIP USAGE .....	10-1-5
10-1-10. LOW VISIBILITY OPERATIONS .....	10-1-6
10-1-11. MOBILE CONTROL TOWERS .....	10-1-6
10-1-12. PARTICIPATION IN LOCAL AIRPORT DEICING PLAN (LADP) .....	10-1-6

<b>Paragraph</b>	<b>Page</b>
10-1-13. PRECISION OBSTACLE FREE ZONE (POFZ) .....	10-1-8

**Section 2. Position Binders**

10-2-1. POSITION DUTIES AND RESPONSIBILITIES .....	10-2-1
10-2-2. TOWER/RADAR TEAM POSITION BINDERS .....	10-2-1

**Section 3. Operations**

10-3-1. DISSEMINATION OF WEATHER INFORMATION .....	10-3-1
10-3-2. WIND INSTRUMENTS AT APPROACH CONTROL FACILITIES .....	10-3-1
10-3-3. LOW LEVEL WIND SHEAR/MICROBURST DETECTION SYSTEMS .....	10-3-1
10-3-4. RELAY OF RVR VALUES .....	10-3-2
10-3-5. ADVANCE APPROACH INFORMATION .....	10-3-2
10-3-6. ILS HEIGHT/DISTANCE LIMITATIONS .....	10-3-3
10-3-7. LAND AND HOLD SHORT OPERATIONS (LAHSO) .....	10-3-3
10-3-8. LINE UP AND WAIT (LUAW) OPERATIONS .....	10-3-3
10-3-9. VISUAL SEPARATION .....	10-3-5
10-3-10. TAKEOFF CLEARANCE .....	10-3-6
10-3-11. MULTIPLE RUNWAY CROSSINGS .....	10-3-6
10-3-12. AIRPORT CONSTRUCTION .....	10-3-7
10-3-13. CHANGE IN RUNWAY LENGTH DUE TO CONSTRUCTION .....	10-3-7
10-3-14. APPROACHES TO PARALLEL RUNWAYS .....	10-3-8
10-3-15. GO-AROUND/MISSED APPROACH .....	10-3-8
10-3-16. EQUIVALENT LATERAL SPACING OPERATIONS (ELSO) .....	10-3-9

**Section 4. Services**

10-4-1. AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS) .....	10-4-1
10-4-2. PRETAXI CLEARANCE PROCEDURES .....	10-4-2
10-4-3. GATE HOLD PROCEDURES .....	10-4-2
10-4-4. ADVISORY SERVICE TO ARRIVING VFR FLIGHTS .....	10-4-3
10-4-5. PRACTICE INSTRUMENT APPROACHES .....	10-4-3
10-4-6. SIMULTANEOUS INDEPENDENT APPROACHES .....	10-4-4
10-4-7. SIMULTANEOUS WIDELY- SPACED PARALLEL OPERATIONS .....	10-4-6
10-4-8. SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES .....	10-4-6
10-4-9. SIMULTANEOUS OFFSET INSTRUMENT APPROACHES .....	10-4-8
10-4-10. REDUCED SEPARATION ON FINAL .....	10-4-9
10-4-11. MINIMUM IFR ALTITUDES (MIA) .....	10-4-10

**Section 5. Terminal Radar**

10-5-1. SHUTDOWN OF PAR ANTENNAS .....	10-5-1
10-5-2. RADAR DISPLAY INDICATORS .....	10-5-1
10-5-3. FUNCTIONAL USE OF CERTIFIED TOWER RADAR DISPLAYS .....	10-5-1
10-5-4. ASR PERFORMANCE CHECKS .....	10-5-2
10-5-5. DEFICIENCIES IN SYSTEM .....	10-5-3
10-5-6. RADAR TOLERANCES .....	10-5-3
10-5-7. RECOMMENDED ALTITUDES FOR SURVEILLANCE APPROACHES .....	10-5-4
10-5-8. ASDE PERFORMANCE CHECKS .....	10-5-4

**Section 6. Airport Lighting**

10-6-1. GENERAL .....	10-6-1
-----------------------	--------

<b>Paragraph</b>	<b>Page</b>
10-6-2. OPERATION OF LIGHTS WHEN TOWER IS CLOSED .....	10-6-1
10-6-3. INCOMPATIBLE LIGHT SYSTEM OPERATION .....	10-6-1
10-6-4. APPROACH LIGHT SYSTEMS .....	10-6-2
10-6-5. VISUAL APPROACH SLOPE INDICATOR (VASI) SYSTEMS .....	10-6-3
10-6-6. PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEMS .....	10-6-4
10-6-7. RUNWAY AND TAXIWAY LIGHTS .....	10-6-4
10-6-8. RUNWAY FLOODLIGHTS .....	10-6-4
10-6-9. RUNWAY EDGE LIGHTS ASSOCIATED WITH MEDIUM APPROACH LIGHT SYSTEM/RUNWAY ALIGNMENT INDICATOR LIGHTS .....	10-6-4
10-6-10. RUNWAY STATUS LIGHTS (RWSL) .....	10-6-5

**Section 7. Airport Arrival Rate (AAR)**

10-7-1. PURPOSE .....	10-7-1
10-7-2. POLICY .....	10-7-1
10-7-3. DEFINITIONS .....	10-7-1
10-7-4. RESPONSIBILITIES .....	10-7-1
10-7-5. CALCULATING AARs .....	10-7-1
10-7-6. OPERATIONAL AARs .....	10-7-2

**Chapter 11. FAA Contract Tower Operation and Administration**

**Section 1. Organizational Responsibilities**

11-1-1. ATO LEVEL OF SUPPORT .....	11-1-1
11-1-2. FAA HEADQUARTERS .....	11-1-1
11-1-3. ATO SERVICE CENTERS .....	11-1-1
11-1-4. AJT DISTRICT OFFICES .....	11-1-1

**Section 2. Operations and Staffing**

11-2-1. REQUESTS FOR ADDITIONAL SERVICES .....	11-2-1
11-2-2. FAA STAFFING FOR SPECIAL EVENTS .....	11-2-1
11-2-3. LETTERS OF AGREEMENT (LOA) .....	11-2-1
11-2-4. EMERGENCY AND CONTINGENCY SITUATIONS .....	11-2-1
11-2-5. FACILITY DIRECTIVES REPOSITORY (FDR) .....	11-2-1
11-2-6. FCT AIR TRAFFIC CONTROLLER ELIGIBILITY .....	11-2-1

**Section 3. Training**

11-3-1. TESTING AND CERTIFICATION .....	11-3-1
11-3-2. BRIEFING/TRAINING ITEMS .....	11-3-1

**Section 4. Documents, Forms, and Charts**

11-4-1. OPERATIONAL DIRECTIVES .....	11-4-1
11-4-2. PROVISION OF INFORMATION AND DATA .....	11-4-1
11-4-3. FORMS AND CHARTS .....	11-4-1
11-4-4. TRAINING MATERIAL .....	11-4-1

**Section 5. Operational Documents, Directives, and Regulations**

11-5-1. FAA DOCUMENTS, DIRECTIVES, AND REGULATIONS .....	11-5-1
--	--------

## Chapter 12. National Programs

### Section 1. Terminal VFR Radar Services

<b>Paragraph</b>	<b>Page</b>
12-1-1. PROGRAM INTENT .....	12-1-1
12-1-2. IMPLEMENTATION .....	12-1-1
12-1-3. TRSA .....	12-1-2
12-1-4. CLASS C AIRSPACE .....	12-1-2
12-1-5. CLASS B AIRSPACE .....	12-1-3

### Section 2. Data Recording and Retention

12-2-1. DATA RECORDING .....	12-2-1
12-2-2. DATA RETENTION .....	12-2-1
12-2-3. FAULT LOG .....	12-2-2

### Section 3. Charted VFR Flyway Planning Chart Program

12-3-1. DEFINITION .....	12-3-1
12-3-2. CRITERIA .....	12-3-1
12-3-3. RESPONSIBILITIES .....	12-3-1

### Section 4. Helicopter Route Chart Program

12-4-1. POLICY .....	12-4-1
12-4-2. DEFINITION .....	12-4-1
12-4-3. CRITERIA .....	12-4-1
12-4-4. RESPONSIBILITIES .....	12-4-2

### Section 5. Terminal Area VFR Route Program

12-5-1. POLICY .....	12-5-1
12-5-2. DEFINITION .....	12-5-1
12-5-3. CRITERIA .....	12-5-1
12-5-4. RESPONSIBILITIES .....	12-5-1

### Section 6. Standard Terminal Automation Replacement System (STARS)

12-6-1. OPERATIONAL USE .....	12-6-1
12-6-2. DATA ENTRIES .....	12-6-1
12-6-3. DISPLAY DATA .....	12-6-1
12-6-4. USE OF STARS QUICK LOOK FUNCTIONS .....	12-6-1
12-6-5. AUTOMATION PROGRAM CHANGES .....	12-6-2
12-6-6. AUTOMATIC ACQUISITION/TERMINATION AREAS .....	12-6-2
12-6-7. MINIMUM SAFE ALTITUDE WARNING (MSAW) AND CONFLICT ALERT (CA) .....	12-6-2
12-6-8. MAGNETIC VARIATION AT STARS FACILITIES .....	12-6-3
12-6-9. MSAW GTM CARTOGRAPHIC CERTIFICATION, UPDATES, AND RECOMPILATION .....	12-6-3
12-6-10. DIGITAL MAP VERIFICATION .....	12-6-3
12-6-11. MODE C INTRUDER (MCI) ALERT PARAMETERS .....	12-6-4
12-6-12. OPERATIONAL MODE TRANSITION PROCEDURES .....	12-6-4
12-6-13. RADAR SELECTION PROCEDURES .....	12-6-4

<b>Paragraph</b>	<b>Page</b>
12-6-14. MULTI-SENSOR RADAR OPERATIONS .....	12-6-5

**Section 7. Safety Logic Systems Operations Supervisor/CIC Procedures**

12-7-1. ASDE SYSTEM OPERATION .....	12-7-1
12-7-2. ENSURE STATUS .....	12-7-2
12-7-3. MONITOR ALERTS AND ENSURE CORRECTIVE ACTION .....	12-7-2
12-7-4. RAIN CONFIGURATION .....	12-7-2
12-7-5. LIMITED CONFIGURATION .....	12-7-2
12-7-6. WATCH CHECKLIST .....	12-7-3

**Section 8. VFR Waypoint Chart Program**

12-8-1. POLICY .....	12-8-1
12-8-2. DEFINITION .....	12-8-1
12-8-3. CRITERIA .....	12-8-1
12-8-4. RESPONSIBILITIES .....	12-8-2

**Section 9. Low Altitude Authorization Notification Capability**

12-9-1. PROGRAM DESCRIPTION .....	12-9-1
12-9-2. UAS FACILITY MAPS (UASFM) .....	12-9-1
12-9-3. SMALL UAS (sUAS) ATC AUTHORIZATIONS .....	12-9-1
12-9-4. FURTHER COORDINATION .....	12-9-1
12-9-5. FACILITY RESPONSIBILITIES .....	12-9-2

**Section 10. UAS Facility Maps (UASFM)**

12-10-1. POLICY .....	12-10-1
12-10-2. RESPONSIBILITY .....	12-10-1
12-10-3. ASSUMPTIONS .....	12-10-1
12-10-4. AUTHORIZATION MAP DESIGN PROCEDURES CLASS B/C/D AIRSPACE .	12-10-2
12-10-5. PROCEDURES TO CHANGE UAS FACILITY MAP (UASFM) ALTITUDES ..	12-10-2
12-10-6. PART 107 OPERATION APPROVALS .....	12-10-3

**Chapter 13. Facility Statistical Data, Reports, and Forms**

**Section 1. General Information**

13-1-1. GENERAL .....	13-1-1
13-1-2. COUNTING METHODS .....	13-1-1
13-1-3. QUESTIONS OR CHANGES .....	13-1-1
13-1-4. SUMMARY OF STATISTICAL REPORTS AND FORMS .....	13-1-1
13-1-5. CATEGORIES OF OPERATIONS .....	13-1-2

**Section 2. Itinerant Operations**

13-2-1. TABULATION .....	13-2-1
--------------------------	--------

**Section 3. Local Operations**

13-3-1. TABULATION .....	13-3-1
--------------------------	--------

**Section 4. Overflight Operations**

13-4-1. TABULATION .....	13-4-1
--------------------------	--------

**Section 5. Amending and Reviewing Data**

<b>Paragraph</b>	<b>Page</b>
13-5-1. AMENDED OPSNET DATA .....	13-5-1
13-5-2. ANALYSIS AND REVIEW .....	13-5-1

**Part 4. FLIGHT SERVICE STATIONS**

**Chapter 14. Flight Service Operations and Services**

**Section 1. General**

14-1-1. OPERATING POSITION DESIGNATORS .....	14-1-1
14-1-2. TEMPORARY FSS .....	14-1-1
14-1-3. FLIGHT PLAN AREA .....	14-1-1
14-1-4. ICSS INTRODUCTORY ANNOUNCEMENT .....	14-1-2

**Section 2. Position/Service Information Binders**

14-2-1. RESPONSIBILITY .....	14-2-1
14-2-2. BOUNDARIES .....	14-2-1
14-2-3. POSITIONS/SERVICES .....	14-2-1

**Section 3. Operations**

14-3-1. AIRPORT CONDITION FILE .....	14-3-1
14-3-2. LANDING AREA STATUS CHECKS .....	14-3-1
14-3-3. LIAISON VISITS .....	14-3-1
14-3-4. DUTIES .....	14-3-1
14-3-5. TIE-IN NOTAM RESPONSIBILITY .....	14-3-1

**Section 4. Services**

14-4-1. PREFILED FLIGHT PLANS .....	14-4-1
14-4-2. PRACTICE INSTRUMENT APPROACHES .....	14-4-1
14-4-3. OPERATION OF AIRPORT LIGHTS .....	14-4-1
14-4-4. RUNWAY EDGE LIGHTS ASSOCIATED WITH MEDIUM APPROACH LIGHT SYSTEM/RUNWAY ALIGNMENT INDICATOR LIGHTS .....	14-4-2
14-4-5. LOCAL AIRPORT ADVISORY (LAA)/REMOTE AIRPORT ADVISORY (RAA)/REMOTE AIRPORT INFORMATION SERVICE (RAIS) .....	14-4-2
14-4-6. AUTOMATIC FLIGHT INFORMATION SERVICE (AFIS) – ALASKA FSSs ONLY .....	14-4-3
14-4-7. TRANSMISSION OF MESSAGES FROM AIRPORT INSPECTORS .....	14-4-3

**Chapter 15. Aviation Meteorological Services and Equipment**

**Section 1. General1**

15-1-1. FAA-NWS AGREEMENT .....	15-1-1
15-1-2. CERTIFICATES OF AUTHORITY .....	15-1-1
15-1-3. LIAISON WITH AVIATION INTERESTS .....	15-1-1
15-1-4. TELEPHONE LISTINGS .....	15-1-1
15-1-5. MINIMUM WEATHER EQUIPMENT .....	15-1-2

<b>Paragraph</b>	<b>Page</b>
15-1-6. SUPPLY-SUPPORT .....	15-1-2

**Section 2. Pilot Weather Briefing**

15-2-1. BRIEFING RESPONSIBILITY .....	15-2-1
15-2-2. WEATHER CHART DISPLAY .....	15-2-1
15-2-3. TELEVISION EQUIPMENT .....	15-2-1
15-2-4. FLIGHT PLANNING DISPLAY .....	15-2-1
15-2-5. FLIGHT PLANNING FORMS .....	15-2-1
15-2-6. MILITARY TRAINING ACTIVITY .....	15-2-1
15-2-7. TRANSFER OF BRIEFERS .....	15-2-2

**Section 3. Broadcasts**

15-3-1. STATION BROADCASTS .....	15-3-1
15-3-2. COMMERCIAL BROADCAST STATIONS .....	15-3-1

**Chapter 16. Equipment**

**Section 1. General**

16-1-1. RESPONSIBILITY .....	16-1-1
16-1-2. AIRCRAFT ORIENTATION PLOTTING BOARD .....	16-1-1
16-1-3. LEASED EQUIPMENT SUPPLIES .....	16-1-1

**Section 2. Frequencies**

16-2-1. VOR AND VORTAC VOICE CHANNELS .....	16-2-1
16-2-2. UHF EN ROUTE CHANNEL .....	16-2-1

**Chapter 17. Facility Statistical Data, Reports, and Forms  
(Alaska Only)**

**Section 1. General Information**

17-1-1. FORM USAGE .....	17-1-1
17-1-2. TOTAL FLIGHT SERVICES FORMULA .....	17-1-1

**Section 2. Aircraft Contacted**

17-2-1. AIRCRAFT CONTACTED .....	17-2-1
17-2-2. LOCAL AIRPORT ADVISORY (LAA)/REMOTE AIRPORT ADVISORY (RAA)/ REMOTE AIRPORT INFORMATION SERVICE (RAIS) .....	17-2-1
17-2-3. RADIO CONTACTS .....	17-2-1

**Section 3. Flight Plan Count**

17-3-1. FLIGHT PLAN COUNT .....	17-3-1
17-3-2. ADDITIONAL ITEMS .....	17-3-1
17-3-3. FLIGHT PLAN CHANGE EN ROUTE .....	17-3-1
17-3-4. FLIGHT PLAN FORMS .....	17-3-1

**Section 4. Pilot Briefing Count**

17-4-1. PILOT BRIEFING COUNT .....	17-4-1
------------------------------------	--------

<b>Paragraph</b>	<b>Page</b>
17-4-2. RETENTION OF FORMS CONTAINING PILOT BRIEFING (“PB”) DATA . . . . .	17-4-1

**Section 5. Other Reports and Information**

17-5-1. COMPLETION OF MONTHLY ACTIVITY RECORD . . . . .	17-5-1
17-5-2. DISTRIBUTION AND AMENDMENT . . . . .	17-5-2

**Section 6. FSS Lists, Logs, and Tallies (OASIS)**

17-6-1. RECORDING OF FLIGHT INFORMATION . . . . .	17-6-1
17-6-2. MANAGEMENT OF LISTS AND LOGS . . . . .	17-6-1
17-6-3. TALLIES PRINTING . . . . .	17-6-1

**Part 5. TRAFFIC MANAGEMENT SYSTEM**

**Chapter 18. Traffic Management National, Center, and Terminal**

**Section 1. Organizational Missions**

18-1-1. TRAFFIC MANAGEMENT SYSTEM MISSION . . . . .	18-1-1
18-1-2. DAVID J. HURLEY AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER (ATCSCC) . . . . .	18-1-1
18-1-3. TRAFFIC MANAGEMENT UNIT (TMU) MISSION . . . . .	18-1-1

**Section 2. Organizational Responsibilities**

18-2-1. AIR TRAFFIC TACTICAL OPERATIONS PROGRAM . . . . .	18-2-1
18-2-2. SERVICE CENTER OPERATIONS SUPPORT GROUP . . . . .	18-2-1
18-2-3. ATCSCC . . . . .	18-2-1
18-2-4. FIELD FACILITIES . . . . .	18-2-2

**Section 3. Line of Authority**

18-3-1. ATCSCC . . . . .	18-3-1
18-3-2. ARTCC . . . . .	18-3-1
18-3-3. TERMINAL . . . . .	18-3-1

**Section 4. Supplemental Duties**

18-4-1. TELEPHONE CONFERENCES . . . . .	18-4-1
18-4-2. SPECIAL INTEREST FLIGHTS . . . . .	18-4-1
18-4-3. ANALYSIS . . . . .	18-4-2
18-4-4. OPERATIONS MANAGER (OM) SUPPORT . . . . .	18-4-2
18-4-5. DIVERSION RECOVERY . . . . .	18-4-3
18-4-6. VOLCANIC ASH . . . . .	18-4-4
18-4-7. SPACE LAUNCH OR REENTRY VEHICLE MISHAPS . . . . .	18-4-4

**Section 5. Coordination**

18-5-1. COORDINATION . . . . .	18-5-1
18-5-2. COMMUNICATION . . . . .	18-5-1
18-5-3. DOCUMENTATION . . . . .	18-5-1



<b>Paragraph</b>	<b>Page</b>
18-5-4. RESPONSIBILITIES .....	18-5-1
18-5-5. STATIC COORDINATION .....	18-5-3
18-5-6. EN ROUTE INTRAFACILITY COORDINATION .....	18-5-4
18-5-7. TERMINAL INTERFACILITY COORDINATION .....	18-5-4
18-5-8. NATIONAL TRAFFIC MANAGEMENT LOG (NTML) .....	18-5-5
18-5-9. NTML FACILITY CONFIGURATION REQUIREMENTS .....	18-5-5
18-5-10. NTML PROCEDURES .....	18-5-5
18-5-11. PROCESSING REQUESTS FOR REROUTES AND RESTRICTIONS FOR FACILITIES WITH NTML .....	18-5-6
18-5-12. DELAY REPORTING .....	18-5-6
18-5-13. ELECTRONIC SYSTEM IMPACT REPORTS .....	18-5-7
18-5-14. TARMAC DELAY OPERATIONS .....	18-5-8

**Section 6. Trajectory-Based Operations (TBO)**

18-6-1. TRAJECTORY-BASED OPERATIONS (TBO) MISSION .....	18-6-1
18-6-2. TBO POLICY .....	18-6-1
18-6-3. TIME-BASED MANAGEMENT (TBM) .....	18-6-1
18-6-4. POLICY .....	18-6-1
18-6-5. TYPES OF TBM .....	18-6-1
18-6-6. EXCEPTION .....	18-6-1
18-6-7. TBM DATA .....	18-6-1
18-6-8. TBM APPROVAL AUTHORITY .....	18-6-2
18-6-9. FIELD FACILITY RESPONSIBILITIES FOR TBM .....	18-6-2
18-6-10. ATCSCC RESPONSIBILITIES FOR TBM .....	18-6-2
18-6-11. TBM WITHIN ARTCC AREA OF JURISDICTION .....	18-6-2

**Section 7. Traffic Management Initiatives**

18-7-1. GENERAL .....	18-7-1
18-7-2. BACKGROUND .....	18-7-1
18-7-3. POLICY .....	18-7-1
18-7-4. TYPES OF TMIs .....	18-7-1
18-7-5. EXCEPTION .....	18-7-2
18-7-6. TMI DATA .....	18-7-2
18-7-7. TMI APPROVAL AUTHORITY .....	18-7-3
18-7-8. PROCESSING TMI .....	18-7-3
18-7-9. FIELD FACILITY RESPONSIBILITIES FOR TMIs .....	18-7-3
18-7-10. ATCSCC RESPONSIBILITIES FOR TMI .....	18-7-3
18-7-11. TMIs WITHIN ARTCC AREA OF JURISDICTION .....	18-7-4
18-7-12. TMIs OF 10 MIT OR LESS .....	18-7-4
18-7-13. TMIs OF 25 MIT OR GREATER .....	18-7-4
18-7-14. CAPPING AND TUNNELING .....	18-7-5

**Section 8. Flow Evaluation Area (FEA), Flow Constrained Area (FCA), and Integrated Collaborative Rerouting (ICR)**

18-8-1. GENERAL .....	18-8-1
18-8-2. DEFINITIONS .....	18-8-1
18-8-3. FEA/FCA RESPONSIBILITIES .....	18-8-1
18-8-4. FEA/FCA PROCEDURES .....	18-8-2
18-8-5. ARTCC TO ARTCC FEA/FCA COORDINATION .....	18-8-3

<b>Paragraph</b>	<b>Page</b>
18-8-6. RESPONSIBILITIES .....	18-8-3
18-8-7. PROCEDURES .....	18-8-3
18-8-8. INTEGRATED COLLABORATIVE REROUTING (ICR) .....	18-8-3

**Section 9. Monitor Alert Parameter**

18-9-1. PURPOSE .....	18-9-1
18-9-2. IMPLEMENTATION PROCEDURES .....	18-9-1
18-9-3. RESPONSIBILITIES .....	18-9-1
18-9-4. ANALYSIS REQUIREMENTS .....	18-9-2
18-9-5. RESOLVING RECURRING SECTOR LOADING ISSUES .....	18-9-2

**Section 10. Ground Delay Programs**

18-10-1. POLICY .....	18-10-1
18-10-2. GENERAL .....	18-10-1
18-10-3. BACKGROUND .....	18-10-1
18-10-4. DEFINITIONS .....	18-10-1
18-10-5. VARIABLES IN GDPs .....	18-10-1
18-10-6. ATCSCC PROCEDURES .....	18-10-2
18-10-7. ARTCC PROCEDURES .....	18-10-3
18-10-8. TERMINAL PROCEDURES .....	18-10-3
18-10-9. AMENDING EDCTs .....	18-10-4
18-10-10. CANCELLATION PROCEDURES .....	18-10-4
18-10-11. DOCUMENTATION .....	18-10-4
18-10-12. USER OPTIONS .....	18-10-5
18-10-13. VFR FLIGHTS .....	18-10-5

**Section 11. Airspace Flow Programs (AFP)**

18-11-1. GENERAL .....	18-11-1
18-11-2. POLICY .....	18-11-1
18-11-3. RESPONSIBILITIES .....	18-11-1
18-11-4. PROCEDURES .....	18-11-1

**Section 12. Collaborative Trajectory Options Program (CTOP)**

18-12-1. GENERAL .....	18-12-1
18-12-2. POLICY .....	18-12-1
18-12-3. DEFINITIONS .....	18-12-1
18-12-4. ATCSCC PROCEDURES .....	18-12-1
18-12-5. ARTCC PROCEDURES .....	18-12-2
18-12-6. TERMINAL PROCEDURES .....	18-12-2
18-12-7. AMENDING EDCTs .....	18-12-2
18-12-8. CANCELLATION PROCEDURES .....	18-12-2
18-12-9. DOCUMENTATION .....	18-12-3

**Section 13. Ground Stop(s)**

18-13-1. POLICY .....	18-13-1
18-13-2. GENERAL .....	18-13-1
18-13-3. LOCAL GROUND STOP(S) .....	18-13-1
18-13-4. NATIONAL GROUND STOP(S) .....	18-13-2

<b>Paragraph</b>	<b>Page</b>
18-13-5. CANCELLATION PROCEDURES .....	18-13-2
18-13-6. DOCUMENTATION .....	18-13-3
<b>Section 14. Special Traffic Management Programs</b>	
18-14-1. SPECIAL EVENT PROGRAMS .....	18-14-1
18-14-2. COORDINATION .....	18-14-1
18-14-3. IMPLEMENTATION .....	18-14-1
18-14-4. AIRPORT RESERVATION OFFICE .....	18-14-2
<b>Section 15. Severe Weather Management</b>	
18-15-1. GENERAL .....	18-15-1
18-15-2. DUTIES AND RESPONSIBILITIES .....	18-15-1
<b>Section 16. Severe Weather Avoidance Plan (SWAP)</b>	
18-16-1. GENERAL .....	18-16-1
18-16-2. RESPONSIBILITIES .....	18-16-1
<b>Section 17. Preferred IFR Routes Program</b>	
18-17-1. GENERAL .....	18-17-1
18-17-2. RESPONSIBILITIES .....	18-17-1
18-17-3. DEVELOPMENT PROCEDURES .....	18-17-1
18-17-4. COORDINATION PROCEDURES .....	18-17-2
18-17-5. PROCESSING AND PUBLICATION .....	18-17-2
<b>Section 18. North American Route Program</b>	
18-18-1. PURPOSE .....	18-18-1
18-18-2. RESPONSIBILITIES .....	18-18-1
18-18-3. PROCEDURES .....	18-18-1
18-18-4. REPORTING REQUIREMENTS .....	18-18-2
18-18-5. USER REQUIREMENTS .....	18-18-2
<b>Section 19. Coded Departure Routes</b>	
18-19-1. PURPOSE .....	18-19-1
18-19-2. DEFINITION .....	18-19-1
18-19-3. POLICY .....	18-19-1
18-19-4. RESPONSIBILITIES .....	18-19-1
18-19-5. CDR DATA FORMAT .....	18-19-2
<b>Section 20. Route Advisories</b>	
18-20-1. PURPOSE .....	18-20-1
18-20-2. POLICY .....	18-20-1
18-20-3. EXPLANATION OF TERMS .....	18-20-1
18-20-4. ROUTE ADVISORY MESSAGES .....	18-20-1
18-20-5. RESPONSIBILITIES .....	18-20-2
18-20-6. PROCEDURES .....	18-20-3
<b>Section 21. Operations Plan</b>	
18-21-1. PURPOSE .....	18-21-1

<b>Paragraph</b>	<b>Page</b>
18-21-2. DEFINITION .....	18-21-1
18-21-3. RESPONSIBILITIES .....	18-21-1
18-21-4. PROCEDURES .....	18-21-3

**Section 22. National Playbook**

18-22-1. PURPOSE .....	18-22-1
18-22-2. POLICY .....	18-22-1
18-22-3. DEFINITION .....	18-22-1
18-22-4. RESPONSIBILITIES .....	18-22-1
18-22-5. NATIONAL PLAYBOOK DATA FORMAT .....	18-22-2
18-22-6. IMPLEMENTATION PROCEDURES .....	18-22-2

**Section 23. Traffic Management (TM) Support of Non-Reduced Vertical Separation Minima (RVSM) Aircraft**

18-23-1. PURPOSE .....	18-23-1
18-23-2. POLICY .....	18-23-1
18-23-3. DEFINITIONS .....	18-23-1
18-23-4. EXCEPTED FLIGHTS .....	18-23-1
18-23-5. OPERATOR ACCESS OPTIONS .....	18-23-1
18-23-6. DUTIES AND RESPONSIBILITIES .....	18-23-2

**Section 24. Route Test**

18-24-1. PURPOSE .....	18-24-1
18-24-2. DEFINITION .....	18-24-1
18-24-3. POLICY .....	18-24-1
18-24-4. RESPONSIBILITIES .....	18-24-1

**Section 25. Time-Based Flow Management (TBFM)**

18-25-1. GENERAL .....	18-25-1
18-25-2. PURPOSE .....	18-25-1
18-25-3. POLICY .....	18-25-1
18-25-4. DEFINITIONS .....	18-25-1
18-25-5. RESPONSIBILITIES .....	18-25-3

**Section 26. Weather Management**

18-26-1. GENERAL .....	18-26-1
18-26-2. BACKGROUND .....	18-26-1
18-26-3. POLICY .....	18-26-1
18-26-4. RESPONSIBILITIES .....	18-26-1

**Part 6. REGULATORY AND PROCEDURAL INFORMATION**

**Chapter 19. Waivers, Authorizations, and Exemptions**

**Section 1. Regulatory Waivers and Authorizations**

19-1-1. PURPOSE .....	19-1-1
-----------------------	--------

<b>Paragraph</b>	<b>Page</b>
19-1-2. POLICY .....	19-1-1
19-1-3. RESPONSIBILITIES .....	19-1-1
19-1-4. PROCESSING CERTIFICATE OF WAIVER OR AUTHORIZATION (FAA FORM 7711-2) REQUESTS .....	19-1-2
19-1-5. PROCESSING CERTIFICATE OF WAIVER OR AUTHORIZATION RENEWAL OR AMENDMENT REQUESTS .....	19-1-2
19-1-6. ISSUANCE OF CERTIFICATE OF WAIVER OR AUTHORIZATION (FAA FORM 7711-1) .....	19-1-2
19-1-7. RETENTION OF CERTIFICATES OF WAIVER OR AUTHORIZATION .....	19-1-3
19-1-8. WAIVER, AUTHORIZATION OR DENIAL PROCEDURE .....	19-1-3
19-1-9. CANCELLATION OF WAIVERS AND AUTHORIZATIONS .....	19-1-3

**Section 2. Elimination of Fixed-Wing Special Visual Flight Rules Operations**

19-2-1. PURPOSE .....	19-2-1
19-2-2. POLICY .....	19-2-1
19-2-3. RESPONSIBILITIES .....	19-2-1

**Section 3. Current Authorizations and Exemptions from Title 14, Code of Federal Regulations**

19-3-1. AUTHORIZATIONS AND EXEMPTIONS FROM TITLE 14, CODE OF FEDERAL REGULATIONS (14 CFR) .....	19-3-1
19-3-2. AUTHORIZATION AND EXEMPTION REQUESTS .....	19-3-1

**Section 4. Parachute Jump Operations**

19-4-1. NONEMERGENCY PARACHUTE JUMP OPERATIONS .....	19-4-1
--	--------

**Section 5. Moored Balloons, Kites, Parasail, Unmanned Rockets, and Unmanned Free Balloons/Objects**

19-5-1. MOORED BALLOONS, KITES, PARASAIL, UNMANNED ROCKETS, AND UNMANNED FREE BALLOONS/OBJECTS .....	19-5-1
19-5-2. DERELICT BALLOONS/OBJECTS .....	19-5-1

**Section 6. 14 CFR Part 107, sUAS Operations**

19-6-1. GENERAL .....	19-6-1
19-6-2. LOW ALTITUDE AUTHORIZATION AND NOTIFICATION CAPABILITY (LAANC) .....	19-6-1
19-6-3. MANUAL AIRSPACE AUTHORIZATION PROCEDURES (VIA DRONEZONE) .....	19-6-1
19-6-4. HEADQUARTERS/SERVICE CENTER AIRSPACE WAIVER PROCESS .....	19-6-2

**Section 7. Procedural Waivers**

19-7-1. PURPOSE .....	19-7-1
19-7-2. POLICY .....	19-7-1
19-7-3. RESPONSIBILITIES .....	19-7-1
19-7-4. WAIVER REQUESTS .....	19-7-1
19-7-5. DEVELOPMENT OF SAFETY DOCUMENTATION AND OTHER SAFETY STUDIES .....	19-7-1
19-7-6. WAIVER RENEWAL PROCESSING .....	19-7-2
19-7-7. PERIODICITY OF WAIVER RENEWALS .....	19-7-2

<b>Paragraph</b>	<b>Page</b>
19-7-8. WAIVER APPROVAL PROCESS .....	19-7-2

**Chapter 20. Temporary Flight Restrictions (TFRs)**

**Section 1. General Information**

20-1-1. PURPOSE .....	20-1-1
20-1-2. AUTHORITY .....	20-1-1
20-1-3. REASONS FOR ISSUING A TFR .....	20-1-1
20-1-4. TYPES OF TFRs .....	20-1-1
20-1-5. TFR NOTAM CONTENT .....	20-1-1
20-1-6. TFR INFORMATION .....	20-1-1
20-1-7. TFRs OUTSIDE OF THE UNITED STATES AND ITS TERRITORIES .....	20-1-2
20-1-8. TFR QUESTIONS .....	20-1-2

**Section 2. Temporary Flight Restrictions in the Vicinity of  
Disaster/Hazard Areas (14 CFR Section 91.137)**

20-2-1. PURPOSE .....	20-2-1
20-2-2. TFR CRITERIA .....	20-2-1
20-2-3. REQUESTING AUTHORITIES .....	20-2-1
20-2-4. ISSUING TFRs .....	20-2-1
20-2-5. DEGREE OF RESTRICTIONS .....	20-2-2
20-2-6. RESPONSIBILITIES .....	20-2-3
20-2-7. REVISIONS AND CANCELLATIONS .....	20-2-4

**Section 3. Temporary Flight Restrictions in National Disaster Areas  
in the State of Hawaii (Section 91.138)**

20-3-1. PURPOSE .....	20-3-1
20-3-2. REQUESTING AUTHORITIES .....	20-3-1
20-3-3. DEGREE OF RESTRICTIONS .....	20-3-1
20-3-4. DURATION OF RESTRICTIONS .....	20-3-1
20-3-5. ISSUING TFRs .....	20-3-1

**Section 4. Emergency Air Traffic Rules (14 CFR Section 91.139)**

20-4-1. PURPOSE .....	20-4-1
20-4-2. REQUESTING AUTHORITIES .....	20-4-1
20-4-3. ISSUING TFRs .....	20-4-1
20-4-4. DEGREE OF RESTRICTIONS .....	20-4-1

**Section 5. Flight Restrictions in the Proximity of the Presidential  
and Other Parties (14 CFR Section 91.141)**

20-5-1. PURPOSE .....	20-5-1
20-5-2. REQUESTING AUTHORITIES .....	20-5-1
20-5-3. ISSUING TFRs .....	20-5-1
20-5-4. DEGREE OF RESTRICTIONS .....	20-5-1
20-5-5. PROCEDURES .....	20-5-1

**Section 6. Flight Limitation in the Proximity of Space Flight  
Operations (14 CFR Section 91.143)**

20-6-1. PURPOSE .....	20-6-1
-----------------------	--------

<b>Paragraph</b>	<b>Page</b>
20-6-2. ISSUING AUTHORITIES .....	20-6-1
20-6-3. DEGREE OF RESTRICTIONS .....	20-6-1
20-6-4. AIRPORTS WITHIN AIRCRAFT HAZARD AREAS AND TRANSITIONAL HAZARD AREAS .....	20-6-1

**Section 7. Management of Aircraft Operations in the Vicinity of  
Aerial Demonstrations and Major Sporting Events (14 CFR Section  
91.145)**

20-7-1. PURPOSE .....	20-7-1
20-7-2. DEGREE OF RESTRICTIONS .....	20-7-1
20-7-3. REQUESTING AUTHORITIES .....	20-7-1
20-7-4. AERIAL DEMONSTRATION/AIRSHOW TFRs .....	20-7-1
20-7-5. TFR REQUESTS FOR MAJOR SPORTING EVENTS .....	20-7-2
20-7-6. TFR REVISIONS AND CANCELLATIONS .....	20-7-3

**Part 7. SYSTEM OPERATIONS SECURITY**

**Chapter 21. Operations Security: Tactical, Special, and  
Strategic**

**Section 1. Organizational Missions**

21-1-1. SYSTEM OPERATIONS SECURITY MISSION .....	21-1-1
21-1-2. TACTICAL OPERATIONS SECURITY MISSION .....	21-1-1
21-1-3. SPECIAL OPERATIONS SECURITY MISSION .....	21-1-1
21-1-4. STRATEGIC OPERATIONS SECURITY MISSION .....	21-1-1

**Section 2. Responsibilities**

21-2-1. DESCRIPTION .....	21-2-1
21-2-2. TACTICAL OPERATIONS SECURITY GROUP RESPONSIBILITIES .....	21-2-1
21-2-3. SPECIAL OPERATIONS SECURITY GROUP RESPONSIBILITIES .....	21-2-1
21-2-4. STRATEGIC OPERATIONS SECURITY GROUP RESPONSIBILITIES .....	21-2-2
21-2-5. AIR TRAFFIC FACILITY RESPONSIBILITIES .....	21-2-3

**Section 3. Operational Line of Authority**

21-3-1. AUTHORITY FOR OPERATIONAL SECURITY-RELATED ACTIONS .....	21-3-1
21-3-2. AIR TRAFFIC SECURITY COORDINATOR (ATSC) .....	21-3-1

**Section 4. Supplemental Duties**

21-4-1. DOMESTIC EVENTS NETWORK (DEN) .....	21-4-1
21-4-2. PRESIDENTIAL/UNITED STATES SECRET SERVICE (USSS) SUPPORTED VIP MOVEMENT .....	21-4-1
21-4-3. SPECIAL INTEREST FLIGHTS (SIFs) .....	21-4-2
21-4-4. CONTINUITY OF OPERATIONS AND CONTINUATION OF GOVERNMENT (COOP/COG) .....	21-4-2
21-4-5. CLASSIFIED OPERATIONS .....	21-4-2
21-4-6. INTELLIGENCE ANALYSIS AND COMMUNICATION .....	21-4-2
21-4-7. UAS SPECIAL GOVERNMENTAL INTEREST (SGI) OPERATIONS .....	21-4-2

**Section 5. Coordination**

<b>Paragraph</b>	<b>Page</b>
21-5-1. COORDINATION .....	21-5-1
21-5-2. COMMUNICATION AND DOCUMENTATION .....	21-5-1
21-5-3. RESPONSIBILITIES .....	21-5-1
21-5-4. UAS SGI ADDENDUM REQUEST PROCESS AND COORDINATION .....	21-5-1

**Section 6. Special Security Instruction (SSI) (14 CFR Section 99.7)**

21-6-1. PURPOSE .....	21-6-1
21-6-2. REQUESTING AUTHORITIES .....	21-6-1
21-6-3. DEGREE OF RESTRICTIONS .....	21-6-1

**Section 7. Security Notice (SECNOT)**

21-7-1. POLICY .....	21-7-1
21-7-2. PURPOSE .....	21-7-1
21-7-3. RESPONSIBILITIES .....	21-7-1

**Appendices**

Appendix 1. [RESERVED] .....	Appendix 1-1
Appendix 2. [RESERVED] .....	Appendix 2-1
Appendix 3. Air Carrier Aircraft for Air Traffic Activity Operations Count .....	Appendix 3-1
Appendix 4. Glideslope Outage Authorization Request .....	Appendix 4-1
Appendix 5. Checklist for Reported Headset Tone Incidents .....	Appendix 5-1
Appendix 6. Commercial Space LOA Sample Templates .....	Appendix 6-1

**Index**

Index .....	I-1
-------------	-----



*TBL 1-1-2*  
**Military Headquarters**

<b>Branch</b>	<b>Address</b>
U.S. Air Force	HQ AFFSA/A3A 7919 Mid-America Blvd Suite 300 Oklahoma City, OK 73135
U.S. Army	Director USAASA (MOAS-AS) 9325 Gunston Road Suite N-319 Ft. Belvoir, VA 22060-5582
U.S. Navy	Department of the Navy Chief of Naval Operations (N885F) 2000 Navy Pentagon Washington, DC 20350-2000

### **1-1-10. SAFETY MANAGEMENT SYSTEM (SMS)**

Every employee is responsible to ensure the safety of equipment and procedures used in the provision of services within the National Airspace System (NAS). Risk assessment techniques and mitigations, as appropriate, are intended for implementation of any planned safety significant changes within the NAS, as directed by FAA Order 1100.161, Air Traffic Safety Oversight. Direction regarding the Safety Management System (SMS) and its application can be found in the FAA Safety Management System Manual and FAA Order 1100.161. The Safety Management System will be implemented through a period of transitional activities. (Additional information pertaining to these requirements and processes can be obtained by contacting the service area offices.)

### **1-1-11. REFERENCES TO FAA NON-AIR TRAFFIC ORGANIZATION**

When references are made to regional office organizations that are not part of the ATO (i.e., Communications Center, Flight Standards, Airport offices, etc.), the facility should contact the FAA region where the facility is physically located—not the region where the facility’s Service Area office is located.

### **1-1-12. DISTRIBUTION**

This order is distributed electronically to all who subscribe 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/](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](https://public.govdelivery.com/accounts/USAFAA/subscriber/new?topic_id=USAFAA_39).



Abbreviation	Meaning
DASI . . . . .	Digital altimeter setting indicator
DCCWU . . . . .	ATCSCC Weather Unit
DDSO . . . . .	Deputy Director of System Operations
DEDS . . . . .	Data entry display system
DLS . . . . .	Designated Lead Specialist
DME . . . . .	Distance measuring equipment
DoD . . . . .	Department of Defense
DOE . . . . .	Department of Energy
DOT . . . . .	Department of Transportation
DP . . . . .	Instrument Departure Procedure
DRT . . . . .	Diversion Recovery Tool
DSP . . . . .	Departure sequencing program
DTM . . . . .	Digital terrain maps
DVA . . . . .	Diverse vector area
DVRSN . . . . .	Diversion
E-MSAW . . . . .	En Route Minimum Safe Altitude Warning
EASL . . . . .	Existing automation service level
EDCT . . . . .	Expect departure clearance time
EDST . . . . .	En Route Decision Support Tool
EI . . . . .	Early Intent
ELT . . . . .	Emergency locator transmitter
EOVM . . . . .	Emergency obstruction video map
EOSH . . . . .	Environmental and Occupational Safety and Health
EPIC . . . . .	El Paso Intelligence Center
ERIDS . . . . .	En Route Information Display System
ERT . . . . .	Embedded route text
ESL . . . . .	Emergency service level
ESP . . . . .	En Route sequencing program
FAA . . . . .	Federal Aviation Administration
FCA . . . . .	Flow Constrained Area
FCFSS . . . . .	Federal Contract Flight Service Station
FDEP . . . . .	Flight data entry and printout
FDIO . . . . .	Flight data input/output
FEA . . . . .	Flow Evaluation Area
FICO . . . . .	Flight Inspection Central Operations
FOIA . . . . .	Freedom of Information Act
FOUO . . . . .	For Official Use Only
FP . . . . .	Flight plan
FPL . . . . .	Full performance level
FRD . . . . .	Fixed Radial Distance
FSA . . . . .	Flight schedule analyzer
FSDO . . . . .	Flight Standards district office
FSL . . . . .	Full service level
FSM . . . . .	Flight Schedule Monitor
FSS . . . . .	Flight service station
GA . . . . .	General aviation
GC . . . . .	Ground control

Abbreviation	Meaning
GDP . . . . .	Ground delay program(s)
GENOT . . . . .	General notice
GI . . . . .	General information message
GS . . . . .	Ground stop(s)
HIRL . . . . .	High intensity runway lights
HRPM . . . . .	Human Resource Policy Manual
IAFDOF . . . . .	Inappropriate Altitude for Direction of Flight
ICAO . . . . .	International Civil Aviation Organization
ICR . . . . .	Integrated Collaborative Rerouting
ICSS . . . . .	Integrated communication center
IDS . . . . .	Information Display System
IFR . . . . .	Instrument flight rules
ILS . . . . .	Instrument landing system
INS . . . . .	Immigration and Naturalization Service
IR . . . . .	IFR MTR
ITWS . . . . .	Integrated Terminal Weather System
LAA . . . . .	Local airport advisory
LAANC . . . . .	Low Altitude Authorization Notification Capability
LAAS . . . . .	Low altitude alert system
LADP . . . . .	Local Airport Deicing Plan
LAHSO . . . . .	Land and hold short operations
LAWRS . . . . .	Limited aviation weather reporting station
LC . . . . .	Local control
LLWAS . . . . .	Low level wind shear alert system
LLWAS NE . . . . .	Low Level Wind Shear Alert System Network Expansion
LLWAS-RS . . . . .	Low Level Wind Shear Alert System Relocation/Sustainment
LLWS . . . . .	Low Level Wind Shear
LOA . . . . .	Letter of agreement
LOGT . . . . .	Log/tally print time
LSAS . . . . .	Leased Service A System
MA . . . . .	Monitor alert
MALS/RAIL . . . . .	Medium approach light system and runway alignment indicator lights
MAPPS . . . . .	Management Association for Private Photogrammetric Surveyors
MCI . . . . .	Mode C intruder
MDM . . . . .	Main display monitor
MEA . . . . .	Minimum en route IFR altitude
MEARTS . . . . .	Micro En Route Automated Radar Tracking System
METAR . . . . .	Aviation Routine Weather Report
MIA . . . . .	Minimum IFR altitude
MIAWS . . . . .	Medium Intensity Airport Weather System
MIT . . . . .	Miles-in-trail
MOA . . . . .	Military operations area
MOCA . . . . .	Minimum obstruction clearance altitude

Abbreviation	Meaning
MOR . . . . .	Mandatory Occurrence Report
MOU . . . . .	Memorandum of understanding
MSL . . . . .	Mean sea level
MTI . . . . .	Moving target indicator
MTR . . . . .	Military training route
MVA . . . . .	Minimum vectoring altitude
NAA . . . . .	National aeronautical association
NADIN . . . . .	National airspace data interchange network
NAR . . . . .	National Automation Request
NAR . . . . .	North American Routes
NAS . . . . .	National Airspace System
NASA . . . . .	National Aeronautics and Space Administration
NASE . . . . .	National Airway Systems Engineering
NAVAID . . . . .	Navigational aid
NCIC . . . . .	National crime information center
NFDD . . . . .	National Flight Data Digest
NHOP . . . . .	National hurricane operations plan
NM . . . . .	Nautical mile
NNCC . . . . .	National Network Control Center
NOAA . . . . .	National Oceanic and Atmospheric Administration
NOM . . . . .	National Operations Manager
NORAD . . . . .	North American Aerospace Defense Command
NOS . . . . .	National Ocean Service
NOTAM . . . . .	Notice to Air Missions
NRP . . . . .	North American Route Program
NTML . . . . .	National Traffic Management Log
NTMO . . . . .	National Traffic Management Officer
NTSB . . . . .	National Transportation Safety Board
NWS . . . . .	National Weather Service
NWSOP . . . . .	National winter storm operations plan
OASIS . . . . .	Operational and Supportability Implementation System
OM . . . . .	Operations Manager
OPR . . . . .	Office of primary responsibility
OS . . . . .	Operations Supervisor
OSIC . . . . .	Operations Supervisor-in-Charge
P-ACP . . . . .	Prearranged coordination procedures
PAR . . . . .	Precision approach radar
PB . . . . .	Pilot briefing
PCS . . . . .	Power Conditioning System
PDC . . . . .	Pre-Departure Clearance
PIC . . . . .	Pilot-in-command
PIREPs . . . . .	Pilot weather reports
POC . . . . .	Point of Contact
PVD . . . . .	Planned view display
RA . . . . .	Radar Associate

Abbreviation	Meaning
RAA . . . . .	Remote Airport Advisory
RADLO . . . . .	Regional air defense liaison officer
RAIL . . . . .	Runway alignment indicator lights
RAIS . . . . .	Remote Airport Information Service
RAPCON . . . . .	Radar Approach Control facility (USAF, USN and USMC)
RATCF . . . . .	Radar Air Traffic Control Facility (USN and USMC)
RCAG . . . . .	Remote communications air ground facility
RCC . . . . .	Rescue coordination center
RMT . . . . .	Route Management Tool
ROC . . . . .	Regional operations center
ROG . . . . .	Route Options Generation
ROT . . . . .	Runway occupancy time
RSU . . . . .	Runway supervisory unit
RVR . . . . .	Runway visual range
SAA . . . . .	Special activity airspace
SAMS . . . . .	Special Use Airspace Management System
SATCOM . . . . .	Satellite Communication(s)
SAWS . . . . .	Stand Alone Weather System
SDP . . . . .	Surveillance Data Processing
SE . . . . .	Systems engineer
SECM . . . . .	Safety and Environmental Compliance Manager
SGI . . . . .	Special Government Interest
SIA . . . . .	Status information area
SID . . . . .	Standard Instrument Departure
SIGMET . . . . .	Significant meteorological information
SMGCS . . . . .	Surface movement guidance and control system
SMIS . . . . .	Safety Management Information System
SMO . . . . .	System Management Office
SMR . . . . .	Surface Movement Radar
SOP . . . . .	Standard operating procedure
SP . . . . .	Support Specialist(s)
SPECI . . . . .	Nonroutine (Special) Aviation Weather Report
STARS . . . . .	Standard terminal automation replacement system
STMC . . . . .	Supervisor Traffic Management Coordinator
STMCIC . . . . .	Supervisory Traffic Management Coordinator-in-Charge
STMP . . . . .	Special traffic management program
SUA . . . . .	Special use airspace
sUAS . . . . .	Small Unmanned Aircraft System(s)
SVFR . . . . .	Special visual flight rules
SWAP . . . . .	Severe weather avoidance plan
SWS . . . . .	Surface Weather System
T&A . . . . .	Time and attendance
TAC . . . . .	Terminal area chart

Abbreviation	Meaning
TACAN . . . . .	Tactical air navigation aid
TCA . . . . .	Tactical Customer Advocate
TCAS . . . . .	Traffic alert collision and avoidance system
TCDD . . . . .	Tower cab digital display
TCF . . . . .	Traffic Flow Management Convective Forecast Produce
TDLS . . . . .	Terminal Data Link System
TDW . . . . .	Terminal display workstation
TDWR . . . . .	Terminal Doppler weather radar
TEC . . . . .	Tower en route control
TELCON . . . . .	Telephone Conference
TERPS . . . . .	Terminal instrument procedures
TFMS . . . . .	Traffic Flow Management System
TFR . . . . .	Temporary flight restriction
TM . . . . .	Traffic management
TMC . . . . .	Traffic management coordinator
TMI . . . . .	Traffic management initiatives
TMO . . . . .	Traffic Management Officer
TMU . . . . .	Traffic management unit
TRACAB . . . . .	Terminal radar approach control in tower cab
TRACON . . . . .	Terminal radar approach control
TRSA . . . . .	Terminal Radar Service Area
TSD . . . . .	Traffic situation display
UA . . . . .	routine PIREPs
UAS . . . . .	Unmanned Aircraft System(s)
UASFM . . . . .	Unmanned Aircraft System(s) Facility Map
USS . . . . .	Unmanned Aircraft System(s) Service Supplier
UFO . . . . .	Unidentified flying object
UHF . . . . .	Ultrahigh frequency

Abbreviation	Meaning
UPT . . . . .	User Preferred Trajectory
USAF . . . . .	United States Air Force
USN . . . . .	United States Navy
UTC . . . . .	Coordinated universal time
UUA . . . . .	urgent PIREPs
VAR . . . . .	Volcanic activity report
VASI . . . . .	Visual approach slope indicator
VCE . . . . .	VSCS/Console Equipment
VEARS . . . . .	VSCS Emergency Access Radio System
VFR . . . . .	Visual flight rules
VHF . . . . .	Very high frequency
VMC . . . . .	Visual meteorological conditions
VOR . . . . .	Omnidirectional VHF navigational aid
VORTAC . . . . .	Collocated VOR and TACAN navigational aid
VR . . . . .	VFR MTR
VSCS . . . . .	Voice Switching and Control System
VTABS . . . . .	Voice switching and control system training and backup system
WARP . . . . .	Weather and Radar Processing
WC . . . . .	Weather coordinator
WFO . . . . .	Weather Forecast Office
WINGS . . . . .	Weather Information and Navigational Graphics System
WMSCR . . . . .	Weather Message Switching Center Replacement
WRA . . . . .	Weather Reconnaissance Area
WSD . . . . .	Web Situation Display
WSO . . . . .	Weather Service Office
WSP . . . . .	Weather System Processor



Procedures and/or LOAs for alerting airport emergency equipment at other public-use airports served by the ATCT and/or FSS must also be developed, if deemed appropriate.

**NOTE–**

*Facility managers or their designee should meet with Airport Rescue and Fire Fighting (ARFF) personnel on an annual basis to review the local airport emergency service LOA and the effectiveness of local procedures.*

**REFERENCE–**

*FAA Advisory Circular AC 150/5210–7, Aircraft Rescue and Fire Fighting Communications.*

**b.** Responsibility for the prompt dispatch of equipment upon alert notice by the FAA ATCT or the FSSs is the joint responsibility of the airport management and the emergency equipment operator. The amount of equipment and number of personnel responding to the emergency will be determined by the equipment operator and should be kept to the minimum required. After receiving the alert and the route to be taken, the personnel operating the equipment are responsible for handling the emergency.

**c.** Procedures for alerting airport emergency equipment, including additional equipment which may be located off the airport, must consist only of:

**1.** Stating the nature and the location of the emergency by means of a signalling system; e.g., a siren and/or telephone. When required, the tower must indicate the route to be taken by the emergency equipment. FSSs must not specify such routes.

**2.** Specifying, when required, the category of alert applicable to the emergency.

**3.** Initiating the alert when, in the opinion of any of the following, a potential or actual emergency exists:

**(a)** The FAA specialists on duty.

**(b)** The pilot of the aircraft concerned.

**(c)** The operator of the aircraft or his/her representative.

**(d)** A representative of the airport management.

**d. Alert Phases:** Operations personnel may categorize local alerts if the category or phase designations have been coordinated locally and agreed to. It may be desirable for emergency equipment to be alerted on a standby or ready basis by use of a two-phase or three-phase alert system, but keep these actions as inconspicuous as possible without impairing efficiency. A three-phase alert may be set up as follows:

**1. Alert I:** Indicating an aircraft approaching the airport is in minor difficulty; e.g., feathered propeller, oil leak, etc. The emergency equipment and crews would standby at the equipment house for further instructions.

**2. Alert II:** Indicating an aircraft approaching the airport is in major difficulty; e.g., engine on fire, faulty landing gear, no hydraulic pressure, etc. This could mean emergency equipment would proceed to a predetermined location (end of runway, etc.) to await development of the potential emergency.

**3. Alert III:** Indicating an aircraft involved in an accident on or near the airport and emergency equipment should proceed immediately to the scene.

**e.** After alerting the emergency equipment, notify only the local aircraft operator or his/her representative and the airport management.

**NOTE–**

*Airport management is responsible for notifying other agencies or personnel.*

**REFERENCE–**

*Advisory Circular AC 150/5210–7, Aircraft Rescue and Fire Fighting Communications.*

## **2–1–12. EXPLOSIVES DETECTION K–9 TEAMS**

At many of our major airports a program has been established by the FAA and the Law Enforcement Assistance Administration to make available an explosives detection K–9 team. ATC facilities must take the following actions should they receive an aircraft request for the location of the nearest explosives detection K–9 team:

- a. The facility will relay the pilot's request to the FAA Washington Operations Center, AEO-100, telephone: commercial (202) 267-3333; ETN 521-0111; or DSN 851-3750 providing the aircraft's identification and position.
- b. AEO-100 will provide the facility with the nearest location. The facility will have AEO-100 standby while the information is relayed to the pilot.
- c. After it has been determined that the aircraft wishes to divert to the airport location provided, the air traffic facility will ascertain estimated arrival time and advise AEO-100. AEO-100 will then notify the appropriate airport authority at the diversion airport. In the event the K-9 team is not available at this airport, AEO-100 will relay this information to the air traffic facility providing them with the secondary location. ATC will then relay this to the pilot concerned for appropriate action.

### 2-1-13. INTERSECTION TAKEOFFS

Air traffic managers at ATCTs and at FSS facilities that provide LAA will prepare an airport diagram showing intersection takeoff information as follows:

- a. Indicate the actual remaining runway length from each intersection; round all actual measurements "down" to the nearest 50 feet. Obtain measurements from an authentic source and record them on the diagram.

**NOTE-**

Some airports publish "declared distances" for a particular runway. These are published in the Chart Supplement or the Aeronautical Information Publication (AIP), and there is no requirement that facility personnel be made aware of them. These distances are a means of satisfying airport design criteria and are intended to be used by pilots and/or operators for preflight performance planning only. There are no special markings, signage, or lighting associated with declared distances, and they do not limit the actual runway available for use by an aircraft. Therefore, they cannot be used for any air traffic control purpose. If pilots inquire about the existence of declared distances, refer them to the Chart Supplement or the AIP.

- b. If the airport authority requests that certain intersection takeoffs be denied, so indicate on the diagram.

**EXAMPLE-**  
/NO TKOFF/

- c. Indicate any access points to a runway from which an intersection takeoff may be made.

### 2-1-14. AIRCRAFT IDENTIFICATION PROBLEMS

#### FAA CONTRACT TOWERS NOT APPLICABLE

To reduce any potential misunderstandings of aircraft identifications caused by duplicate, phonetically similar-sounding, or hard to distinguish registration numbers or call signs operating in the same area, facility managers must ensure that those occurrences are processed using the Similar Sounding Call Sign Submission Tool. Where possible, facility managers must ensure computers in operating quarters are provided with a bookmarked hyperlink to <https://ksn2.faa.gov/ATO/AJT-BURST-Team-Tools/SSCS/SitePages/Home.aspx>. Where no internet-connected computers are accessible in operations areas, specify procedures in a facility directive for forwarding pertinent information to personnel that can make the entry into the tool as soon as practical. Ensure that the following additional actions are taken.

- a. Scheduled air carrier aircraft: When two or more air carriers with duplicate flight numbers or phonetically similar-sounding call signs operate within 30 minutes of each other at the same airport or within the same sector and cause an identification problem on a recurring basis, request that the flight identification numbers be changed by:

**NOTE-**

Recurrent situations would be aircraft proceeding primarily the same direction through the same sectors three or more times a week, at least two weeks out of four consecutive weeks.

- 1. For carriers listed at the following web address, <http://tfms.faa.gov/airlinephones.html>, contact the appropriate airline office.



- a. Contact local law enforcement or the Federal Bureau of Investigation (FBI) as soon as possible providing location, description, and other pertinent information regarding the incident;
- b. Report the incident to the Domestic Events Network (DEN) Air Traffic Security Coordinator (ATSC);
- c. Record the incident via the Comprehensive Electronic Data Analysis and Reporting (CEDAR) program or, if CEDAR is not available, via the appropriate means, in accordance with FAA Order JO 7210.632, Air Traffic Organization Occurrence Reporting;
- d. Provide the following information when reporting the incident via the DEN and CEDAR:
  1. UTC date and time of event.
  2. Call Sign, or aircraft registration number.
  3. Type of aircraft.
  4. Nearest major city.
  5. Altitude.
  6. Location of event (e.g., latitude/longitude and/or Fixed Radial Distance (FRD)).
  7. Brief description of the event.
  8. Any other pertinent information.
  9. Law enforcement contact information.

**NOTE-**

*Facilities without direct access to the DEN should forward the information through the Washington Operations Center Complex (WOCC) to the DEN.*

**REFERENCE-**

*FAA Order JO 7110.65, Para 2-9-3, Content.*

*FAA Order JO 7110.65, Para 10-2-14, Unauthorized Laser Illumination of Aircraft.*

**2-1-31. REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES**

- a. Facility air traffic managers must ensure that the operational supervisor/controller-in-charge promptly reports any suspicious aircraft/pilot activities to the Domestic Events Network (DEN) Air Traffic Security Coordinator (ATSC).

**REFERENCE-**

*FAA Order JO 7110.65, Para 2-1-2, Duty Priority.*

**NOTE-**

*Additional information for ATC on identifying suspicious situations is located in FAA Order JO 7610.4, Sensitive Procedures and Requirements for Special Operations, Chapter 7, Section 3, Suspicious Aircraft/Pilot Activity.*

- b. The DEN ATSC must be notified as soon as possible of any suspicious activity, including the following:
  1. Radio communications are lost or not established. Consider any IFR aircraft that is NORDO for more than 5 minutes as suspicious. This includes all aircraft (for example, general aviation, law enforcement, military, MEDEVAC) regardless of transponder code. ATC actions taken to establish communications with the NORDO aircraft must be reported to the DEN ATSC.
  2. An aircraft fails to turn on or changes from its assigned transponder beacon code (other than approved emergency/radio failure beacon code).
  3. An aircraft deviates from its assigned route of flight/altitude and refuses to return to it when instructed.
  4. Phantom or deceptive transmissions such as impersonating a pilot or controller relaying ATC instructions, or unusual questions about military activities or sensitive/secure areas.

**REFERENCE-**

*FAA Order JO 7110.65, Para 2-4-6, False or Deceptive Communications.*

5. Inconsistent or abnormal repetitive aircraft activity such as: flights over/near sites of interest or prohibited/restricted airspace; unanticipated speed or rate of climb/descent; or missed crossing restrictions or reporting points.

6. Pilot reports flight difficulties with no eventual explanation or response to ATC.

7. Any air carrier, cargo, or scheduled air taxi that requests to divert from its original destination or route for any reason other than weather or routine route changes should be considered by ATC as suspicious activity.

8. Any general aviation arriving from an international departure point that requests to divert from the original U.S. destination airport.

9. Other general aviation and non-scheduled air taxi or charter services that request to divert from the original destination or route for any unusual reason (e.g., reasons other than weather, company request, passenger request, mechanical, etc.) should be considered by ATC as suspicious activity.

10. Any other situation that may indicate a suspicious aircraft.

**REFERENCE-**

FAA Order JO 7210.3, Para 2-1-34, Reporting Suspicious UAS Activities.

11. Any situation or pilot activity (for example, background noise, change in pilot's voice characteristics, etc.) that may indicate a hijacked aircraft. Due to air to ground communications capabilities (e.g., data links, cellular phones), controllers may learn of a hijack situation from alternate sources (for example, airline air operations center) rather than from the aircrew itself.

## **2-1-32. REPORTING DIVERTED AIRCRAFT ARRIVING FROM INTERNATIONAL LOCATIONS**

Any aircraft departing from an international location that diverts to a U.S. Airport, or is diverted and lands at a U.S. airport different from the original U.S. destination airport, must be reported to the Domestic Events Network (DEN) Air Traffic Security Coordinator (ATSC). In addition, any diverted aircraft that ATC identifies as suspicious (in accordance with paragraph 2-1-31) must be promptly reported to the DEN ATSC.

**NOTE-**

*Weather, airport/runway conditions, or other unforeseen reasons may necessitate an aircraft to divert or be diverted on short notice. Reporting via the DEN assists U.S. Customs and Border Protection (CBP) with real-time notification of the airport change.*

## **2-1-33. REPORTING INOPERATIVE OR MALFUNCTIONING ADS-B TRANSMITTERS**

FAA Flight Standards Service (AFS), Safety Standards Division is responsible for working with aircraft operators to correct ADS-B malfunctions. Reports of inoperative or malfunctioning ADS-B transmitters must be forwarded to [adsbfocusteam@faa.gov](mailto:adsbfocusteam@faa.gov) and must include the following information:

- a. The aircraft identification used for the flight;
- b. Location of the occurrence;
- c. Date and time of the occurrence (UTC); and
- d. Any additional information or observations that may be pertinent or helpful to AFS in their investigation.

**NOTE-**

*The intent of this paragraph is to capture ADS-B anomalies observed by ATC, such as errors in the data (other than Call Sign Mis-Match events, which are detected and reported to AFS automatically) or instances when civil ADS-B transmissions would normally be expected but are not received (e.g., ADS-B transmissions were observed on a previous flight leg).*

**REFERENCE-**

FAA Order JO 7210.3, Para 5-4-2, Requests for Deviation from ADS-B Out Requirements.

FAA Order JO 7210.3, Para 5-4-9, ADS-B Out OFF Operations.

*FAA Order JO 7110.65, Para 5–2–22, Inoperative or Malfunctioning ADS–B Transmitter.*

*FAA Order JO 7110.65, Para 5–2–23, ADS–B Alerts.*

*FAA Order JO 7110.65, Para 5–2–24, ADS–B Out OFF Operations.*

## **2–1–34. REPORTING SUSPICIOUS UAS ACTIVITIES**

Consistent with the provisions of Air Traffic Service, Duty, and Operational Priorities, all Air Traffic Control facilities, FAA Contract Towers, and Flight Service Stations must report suspicious UAS. Suspicious UAS operations may include operating without authorization; loitering in the vicinity of sensitive locations (e.g., national security and law enforcement facilities and critical infrastructure); or disrupting normal air traffic operations resulting in runway changes, ground stops, pilot evasive action, etc. Reports of a UAS operation alone do not constitute suspicious activity. Development of a comprehensive list of suspicious activities is not possible due to the vast number of situations that could be considered suspicious. ATC must exercise sound judgment when identifying situations that could constitute or indicate a suspicious activity.

**a.** Notify local authorities (e.g., airport/local law enforcement; airport operations; and/or the responsible Federal Security Director Coordination Center) in accordance with local facility directives, including Letters of Agreement with the airport owner/operator.

**b.** Report the incident to the Domestic Events Network (DEN) Air Traffic Security Coordinator (ATSC).

**c.** Record the incident via the Comprehensive Electronic Data Analysis and Reporting (CEDAR) program or, if CEDAR is not available, via the appropriate means, in accordance with FAA Order JO 7210.632, Air Traffic Organization Occurrence Reporting.

**d.** Notify the air traffic manager.

**e.** Provide the following information when reporting the incident via the DEN and CEDAR:

**1.** UTC date and time of incident.

**2.** Reporting source(s).

**3.** Position: fixed radial distance, bearing and distance, landmark, altitude, and heading.

**4.** Flight behavior (i.e., loitering, heading toward the airport).

**5.** UAS type (e.g., quadcopter, fixed wing), if known.

**6.** Report operational impacts in accordance with paragraph 21–4–1, Domestic Events Network (DEN), of this order.

**f.** Attempt to obtain additional information relevant to the suspicious UAS including:

**1.** Size and color.

**2.** Number of reported/sighted UAS.

**3.** Location of the person(s) operating the UAS.

**4.** Remote pilot information including name, address, and phone number, if obtained by local law authorities or other verifiable means.

**g.** Facilities must maintain a checklist that provides guidance on reporting suspicious UAS activities. At a minimum, this checklist must be available to Operations Supervisor (OS), Controller-in-Charge (CIC), and Operations Manager (OM) personnel. Facilities must consider the following for inclusion on the checklist:

**1.** Items a through f of this paragraph.

**2.** Contact information necessary for completing the notification requirements of this paragraph.

**3.** Local factors that may be necessary in determining if an operation is suspicious (e.g., location of critical infrastructure).

4. A requirement to notify the Regional Operations Center (ROC) for security-related events that may generate significant media or congressional interest as required by FAA Order JO 1030.3.
5. Any other information as deemed necessary by the air traffic manager.

**REFERENCE-**

*FAA Order JO 7110.65, Para 2-1-2, Duty Priority.*

*FAA Order JO 7610.4, Para 7-3-1, Application.*

*FAA Order JO 1030.3, Initial Event Response, Chapter 2, Upward Notification.*

*FAA Order JO 7210.632, Air Traffic Organization Occurrence Reporting.*

*Advisory Circular 91-57B, Exception for Limited Recreational Operations of Unmanned Aircraft.*

*P/CG Term - Suspicious UAS.*

**2-1-35. USE OF UAS DETECTION SYSTEMS**

Airport owners/operators or local enforcement may contact ATC facilities to coordinate their acquisition, testing, and operational use of UAS detection systems. These systems and how they are used may have implications for FAA regulations for airports; potentially affect ATC and other Air Navigation Services systems (e.g., RF interference with radars); and/or trigger airport responses (e.g., closing runways), which must be coordinated with ATC.

a. Requests by airport authorities for ATC facility cooperation/authorization in the acquisition, testing, or use of UAS detection systems will be referred to the appropriate FAA Airports District Office (ADO). The ADO will initiate internal FAA coordination, including reviews by the responsible ATO offices and facilities.

b. ATC facilities must not enter into any verbal or written agreement with a commercial vendor or an airport authority regarding UAS detection capabilities without prior coordination and approval from HQ-AJT-0.

**NOTE-**

1. *UAS detection systems do not include the interdiction components that characterize UAS mitigation technologies, also referred to as Counter Unmanned Aircraft System (C-UAS) technologies. Only select Federal Departments and Agencies have the legal authority to use C-UAS systems in the NAS. The FAA does not support the use of this technology by other entities without this legal authorization.*

2. *The FAA does not advocate the use of UAS detection in the airport environment until appropriate policy and procedures are developed.*

**2-1-36. USE OF COUNTER UNMANNED AIRCRAFT SYSTEMS (C-UAS)**

Select Departments and Agencies, which have been legally authorized to use this technology, are operationally using Counter Unmanned Aircraft System systems (C-UAS) in the NAS to protect certain facilities and assets. C-UAS systems are capable of disabling, disrupting, or seizing control of a suspicious UAS, and may integrate or be linked to UAS detection capabilities. These Departments and Agencies are required to coordinate with the FAA to assess and mitigate risks to the NAS posed by these C-UAS systems. These systems and their deployment may affect ATC and other Air Navigation Services systems (e.g., RF interference with radars); which could impact other air traffic in the vicinity including legitimate, compliant UAS flights. Additionally, the C-UAS may involve the response and deployment of ground/airborne operational security assets, which must be coordinated with ATC.

a. The Joint Air Traffic Operations Command (JATOC) Air Traffic Security Coordinator (ATSC) team, which manages the Domestic Events Network (DEN), must notify affected ATC facilities when C-UAS systems are activated.

**NOTE-**

*Only select Federal Departments/Agencies have been legally authorized to utilize C-UAS to cover certain facilities and assets, and with coordination with the FAA to address risks to the NAS. Risk mitigation for the NAS typically includes notification to potentially affected ATC facilities.*

b. The DEN must alert all ATC facilities affected by C-UAS deployment and JATOC National Operations Control Center (NOCC) of any possible operational impacts.

1. The alerts will focus on real-time reporting regarding possible operational impacts of C-UAS activities providing the affected facilities with heightened awareness to potential flight and equipment anomalies; and will allow the facilities to take actions needed to sustain safe operations.
2. The alerts must be made via landline communications and must not be broadcast over radios, shout lines, or direct dial lines to air traffic controllers on position.
3. The affected ATC facilities must not discuss C-UAS operations with any outside entity.

## **2-1-37. REPORTING DEATH, ILLNESS, OR OTHER PUBLIC HEALTH RISK ON BOARD AIRCRAFT**

a. When an air traffic control facility is advised of a death, illness, and/or other public health risk, the following information must be forwarded to the DEN:

1. Call sign.
2. Number of suspected cases of illness on board.
3. Nature of the illness or other public health risk, if known.
4. Number of persons on board.
5. Number of deaths, if applicable.
6. Pilot's intent (for example, continue to destination or divert).
7. Any request for assistance (for example, needing emergency medical services to meet the aircraft at arrival).

### **NOTE-**

1. *If the ATC facility is not actively monitoring the DEN or does not have a dedicated line to the DEN, they must call into the DEN directly via 844-432-2962 (toll free).*
2. *Except in extraordinary circumstances, such as a situation requiring ATC intervention, follow-on coordination regarding the incident will not involve ATC frequencies.*
3. *The initial report to a U.S. ATC facility may be passed from a prior ATC facility along the route of flight.*

b. Once notification of an in-flight death, illness, and/or other public health risk is provided by an ATC facility, the DEN Air Traffic Security Coordinator must ensure the Centers for Disease Control and Prevention (CDC) Emergency Operations Center (EOC) receives the following information:

1. Call sign.
2. Number of suspected cases of illness on board.
3. Nature of the illness or other public health risk, if known.
4. Number of persons on board.
5. Number of deaths, if applicable.
6. Departure airport.
7. Arrival airport.
8. Estimated time of arrival.
9. Pilot's intent (for example, continue to destination or divert).
10. Any request for assistance (for example, a need for emergency medical services to meet aircraft at arrival).

### **REFERENCE-**

*FAA Order JO 7110.65, Para 10-2-19, Reporting Death, Illness, or Other Public Health Risk on Board Aircraft.*

## 2-1-38. OPPOSITE DIRECTION OPERATIONS

Opposite Direction Operations consists of IFR/VFR Operations conducted to the same or parallel runway where an aircraft is operating in a reciprocal direction of another aircraft arriving, departing, or conducting an approach.

### REFERENCE-

FAA Order JO 7110.65, Para 1-2-2, Course Definitions.

#### a. Each facility must:

1. Determine the operational feasibility of conducting opposite direction operations.
2. At a minimum, develop the opposite direction operations procedures necessary to accommodate aircraft that have an operational need or receiving operational priority.

### REFERENCE-

FAA Order JO 7110.65, Para 2-1-4, Operational Priority.

b. For aircraft receiving IFR services that are conducting opposite direction operations to the same runway, facility directives must:

1. Define minimum cutoff points identified by distance or fixes between:
  - (a) An arrival and a departure.
  - (b) An arrival and an arrival.
2. Specify that use of Visual Separation is not authorized, except at those unique locations that are operationally impacted by terrain and when issued a Letter of Authorization by the Service Area Director of Operations.
3. Require traffic advisories to both aircraft.

### EXAMPLE-

*OPPOSITE DIRECTION TRAFFIC (distance) MILE FINAL, (type aircraft). OPPOSITE DIRECTION TRAFFIC DEPARTING RUNWAY (number), (type aircraft). OPPOSITE DIRECTION TRAFFIC, (position), (type aircraft).*

4. Require the use of a memory aid.
5. Prohibit opposite direction same runway operations with opposing traffic inside the applicable cutoff point unless an emergency situation exists.
6. Specify the position/facility responsible for ensuring compliance with cutoff points between aircraft conducting opposite direction operations.
7. Contain the following minimum coordination requirements:
  - (a) Define the facility/position that is responsible for initiating coordination.
  - (b) All coordination must be on a recorded line and state "Opposite Direction." Initial coordination must include call sign, type, and arrival or departure runway.
- c. The cutoff points established under subparagraph b1 must ensure that required lateral separation exists:
  1. When a departing aircraft becomes airborne and has been issued a turn to avoid conflict; or
  2. When the first aircraft has crossed the runway threshold for opposite direction arrivals.
  3. If the conditions in subparagraphs c1 and c2 are not met, facility directives must require action be taken to ensure that control instructions are issued to protect the integrity of the cutoff points.
- d. At a minimum, the following must be considered when developing cutoff points:
  1. Aircraft performance.
  2. Type of approach.
  3. Operational position configuration.

4. Runway configuration.
5. Weather conditions.
6. Existing facility waivers.

e. For aircraft receiving IFR services that are conducting opposite direction operations to parallel runways regardless of the distance between centerlines, facility directives must:

1. Ensure that a turn away from opposing traffic is issued when opposing traffic is inside the cutoff points defined in b1 for the other runway.
2. Specify that use of Visual Separation is authorized once a turn away from opposing traffic is issued.

**REFERENCE-**

FAA Order JO 7110.65, Para 7-2-1, Visual Separation.

3. Require traffic advisories to both aircraft.

**EXAMPLE-**

*OPPOSITE DIRECTION TRAFFIC (distance) MILE FINAL, (type aircraft). OPPOSITE DIRECTION TRAFFIC DEPARTING RUNWAY (number), (type aircraft). OPPOSITE DIRECTION TRAFFIC, (position), (type aircraft).*

4. Require the use of a memory aid.
5. Contain the following minimum coordination requirements:

(a) Define the facility/position that is responsible for initiating coordination.

(b) All coordination must be on a recorded line and state "Opposite Direction." Initial coordination must include call sign, type, and arrival or departure runway.

(c) At those locations that routinely conduct Opposite Direction Operations due to noise abatement at night and when issued a Letter of Authorization by the Service Area Director of Operations, the provisions of paragraph e5 above are not required.

f. For VFR aircraft that are conducting opposite direction operations to same or parallel runways, facility directives must contain procedures requiring the use of the following, including but not limited to:

1. Ensuring departing VFR aircraft are issued a turn to avoid conflict with opposing IFR/VFR traffic.
2. Traffic advisories to both aircraft.
3. State the phrase "opposite direction" if coordination is required.
4. Memory Aids.

g. All facility directives and letters of agreement addressing opposite direction operations must be approved by the Service Area Director of Operations.

**REFERENCE-**

FAA Order JO 7110.65, Para 3-8-4, Simultaneous Opposite Direction Operation.

## **2-1-39. SPECIAL INTEREST SITES**

a. Supervisory/CIC personnel receiving any reports or information regarding unusual aircraft activities in the vicinity of special interest sites such as nuclear power plants, power plants, dams, refineries, etc., must immediately notify local law enforcement authorities of these reports/information and notify the overlying air traffic facility of any of these reports and the action taken. Supervisory/CIC personnel may receive reports/information from the Nuclear Regulatory Commission or other sources.

b. Air traffic facilities must promptly advise the Domestic Events Network (DEN) of any actions taken in accordance with this paragraph.

c. Individual facilities must determine which special interest sites, if any, should be displayed on maps, charts, and video displays.

## **2-1-40. TRANSPORTATION SECURITY ADMINISTRATION AND FAA JOINT OPERATING PROCEDURES**

The requirements for Air Traffic Managers (ATM) to follow during security events, according to the Transportation Security Administration (TSA) and the FAA Joint Operating Procedures Agreement, are as follows:

**a.** If the TSA Federal Security Director (FSD) informs the ATM of an imminent and potentially life threatening security situation, the ATM, consistent with safety, must comply with the FSD's requested operational response. As soon as possible after action is taken, the ATM must contact the Domestic Events Network (DEN) Air Traffic Security Coordinator (ATSC) and report any action taken.

**b.** The above guidance does not preclude the ATM from taking immediate action in the event the ATM learns of an imminent and potentially life threatening security situation. In such situations, as soon as possible, the ATM must notify the DEN ATSC and the FSD of the situation, along with any action taken.

### **NOTE-**

*For information concerning reporting of suspicious activities around airports and FAA facilities, see JO 7210.3, paragraph 2-7-6, Suspicious Activities Around Airports or FAA Facilities.*

**c.** For any security situation identified by TSA, in addition to those that are "imminent and life threatening," the ATM must contact the DEN ATSC and the FSD to report the situation.

**d.** At airports that have both an FAA and TSA presence, the ATM and FSD must meet at least every 6 months, or within sixty days of a new ATM or FSD entering into their position, to exchange/update contact information and to discuss security-related information and plans of mutual interest.

**e.** The responsibilities outlined in this paragraph may be delegated as necessary.

## **2-1-41. DISPLAYING SPACE LAUNCH AND REENTRY AREAS ON THE SITUATION DISPLAY**

Facility ATMs must develop a means to ensure that volumes of airspace depicted on an operational situation display for space launch and reentry operations are verified to be accurate.

## **2-1-42. DISPLAYING DEBRIS RESPONSE AREAS ON THE SITUATION DISPLAY**

Facility ATMs must develop a means to ensure that, when possible, debris response areas (DRA) are displayable on operational situation displays at the start of a launch or reentry window.

### **NOTE-**

*The intent of this requirement is to allow controllers to quickly display a DRA if it is activated. If technical limitations prevent the DRA from being drawn on the operational situation display in advance of a space operation, such as if the DRA would cover an entire sector or facility, then an alternative means of providing the needed geographic area of the DRA to the controller must be used. This could be accomplished using the TSD, a paper map, or some other means.*

## **2-1-43. ACCESS TO FALCON REPLAY SYSTEM**

Air traffic managers (ATM) must assign access to the Falcon Replay System with voice for:

- a.** Facility management and Quality Control personnel.
- b.** Training Team Members.
- c.** Local Safety Council Members.
- d.** Controllers-in-Charge / National Traffic Management Specialists-in-Charge / Traffic Management Coordinators-in-Charge / NOTAM Specialists-in-Charge.
- e.** Certified Professional Controllers, Certified Professional Controllers-in-Training, Traffic Management Coordinators, and Traffic Management Coordinators-in-Training.



- f.** Other facility personnel deemed appropriate by the ATM or their designee.



Order JO 7110.10, Flight Services, and other appropriate directives, that have operational/procedural significance.

**b.** Air traffic managers must ensure that facility air traffic personnel are briefed prior to implementation on changes identified in the review of published aeronautical data and flight procedures that have operational/procedural significance or will likely have an effect on their facility's air traffic services. To the extent possible these briefings should be initiated within 30 days prior to the date of the change.

**REFERENCE-**

*FAA Order JO 7210.3, Para 2-1-6, Checking Accuracy of Published Data.*

**c.** The Aeronautical Information System Replacement (AISR) is an authorized source for NOTAMs. To the extent available, Air Traffic Managers must permit review of AISR for NOTAMs impacting the facility's area of jurisdiction, or an alternative authorized source; for example, the National Airspace System Aeronautical Information Management Enterprise System (FAA NAIMES) website at: <https://notams.aim.faa.gov/notamSearch>.

## **2-2-12. SYSTEMS MANAGEMENT OF VSCS EQUIPMENT**

Air traffic facility managers must determine which VSCS console equipment (VCE) positions require tailored checklists. The checklist must include as a minimum, the configuration map in use and the specific position eligibility/capability (classmark) adapted to maintain operational continuity.

## **2-2-13. REPORTING EQUIPMENT TROUBLE**

Equipment trouble reports are normally delivered by air traffic personnel to Technical Operations Control Center personnel in person or by telephone. Locally developed procedures that are agreed to jointly by the air traffic and Technical Operations managers may be used for trouble reporting. In the absence of locally developed procedures, the following must apply: Trouble reports must specify the facility, sector and position affected and include a brief description of the problem. In addition:

**a.** For air/ground communications problems, the frequency or frequencies affected must be specified.

**EXAMPLE-**

*"Atlanta Sector 66R side 123.4 no transmit."*

**b.** For air/ground communications problems, the calling and the called locations must be specified.

**EXAMPLE-**

*"Seattle Sector 46D side hot line to Salt Lake City is not working."*

## **2-2-14. FACILITY DIRECTIVES REPOSITORY (FDR)**

The FDR is a web-based library for FAA employees and authorized users to access Letters of Agreement (LOAs) and facility directives. The FDR is available on the FAA intranet site at: <https://loa.faa.gov>.

**NOTE-**

*Directives information for Flight Service Stations is only required for those located in Alaska.*

**a.** The Vice President of Air Traffic Services and the Vice President of System Operations Services must provide oversight within their respective service units to ensure FDR responsibilities are administered.

**b.** Facility Managers must:

**1.** Ensure that LOAs and facility directives are posted to the FDR.

**2.** Ensure that new and revised LOAs and facility directives are posted to the FDR before the effective date of the documents.

**3.** Ensure Classified, Contractor Proprietary, and For Official Use Only information is removed or excluded from posted documents.

4. Ensure that all outdated and canceled documents are removed from the FDR.

c. General Managers must:

1. Assist in the posting of documents, required in b1 and 2 above, for facilities that do not have FAA intranet access or automation capability.

2. Establish an administrative process to ensure facility compliance.

3. Ensure Classified, Contractor Proprietary, and For Official Use Only information is removed or excluded from posted documents.

d. Safety/Quality Assurance Offices must ensure facility compliance with posting LOAs and facility directives to the FDR.

e. FDR functionality and administration:

1. Personnel with access to the FAA intranet may view documents without the need for a log-in or user account.

2. Personnel external to the firewall may view documents on a mirrored internet site with authorization by an FAA sponsor. Access to the mirror site requires a User ID and password that are valid for the period necessary to execute the sponsored activity. Contact information and instructions are available on the internet site.

3. Personnel responsible for maintaining the facility's documents must register with the site to establish a user account.

4. A facility may have up to three user accounts. User information is located in the user manual on the site's homepage.

5. Facility/General managers are the approving authority for user account privileges for their facilities.

(a) Users must complete an electronic registration page on the site to request access.

(b) The Facility/General manager will be notified via an email message when a user makes a request for account privileges. Approval must be made via the automated privilege link.

(c) Users will be notified of their approval by email.

(d) Direct problems or questions to the facility point of contact identified on the facility homepage in the repository.

## Section 9. Weather/Visibility

### 2-9-1. BACKUP/AUGMENTATION OF WEATHER OBSERVATIONS

a. Facilities where air traffic personnel provide backup/augmentation of automated weather observations, or take manual observations, must use FAA Order 7900.5, Surface Weather Observing–METAR, as the basic source of guidance for completion of observations.

b. In an automated weather environment, elements of automated weather observations may be used for operational purposes (i.e., wind and altimeter).

c. Specialists responsible for providing backup/augmentation of automated weather observations, or manual observations, must be certified by the FAA.

**REFERENCE–**

*FAA Order JO 7900.5, Appendix J, Aviation Weather Observer Certification Process.*

### 2-9-2. RECEIPT AND DISSEMINATION OF WEATHER OBSERVATIONS

a. Facility air traffic managers must establish a means by which the receipt of weather observations are immediately known to facility personnel responsible for dissemination to other facility functions and that these functions are made aware of changes as they are posted. In addition, facility managers must establish procedures through the facility SOP that will ensure all positions of operation receive and acknowledge any change in reportable visibility value when the tower has the responsibility for visibility reporting. This may be accomplished by means of an alerting device, location of weather receiving equipment at positions so that any change of data is recognized, or any other means which may be best suited to the facility work environment.

b. To the extent possible, facility air traffic managers must establish procedures to acknowledge receipt of weather observations. Where possible, establish an agreement with the appropriate weather source to share the responsibility for ensuring the receipt of the observation. Automated Surface Observing System(s) (ASOS), Automated Weather Observing System(s) (AWOS), and Automatic Weather Information System (AWIS) locations are not required to acknowledge receipt of observations.

c. The addition or deletion of a weather reporting location must be coordinated through the appropriate Service Area office, for forwarding to System Safety and Procedures. System Safety and Procedures must initiate the required actions for additions and/or deletions to the national data base. When adding new weather reporting locations, include a statement that:

1. An aviation requirement exists.
2. The observers are/have been certified by the FAA.
3. No other observation exists in the surface area, if applicable.
4. Identifies the hours that the data will be available if less than 24 hours, i.e., 0800Z–2300Z.
5. Identify what facility will be responsible for observation entry into the system.

d. AWOS towers with LAWRS certified controllers should disable the AWOS long–line communications capability during facility operating hours and use the AWOS data when representative of airport conditions to generate a manual METAR/SPECI observation. If AWOS is able to provide METAR/SPECI observations (for example, FAA AWOS–C) and allows augmentation and backup entries, the AWOS may be used the same as ASOS.

**NOTE–**

*Ensure AWOS long–line communication is enabled when the facility closes.*

### 2-9-3. LIMITED AVIATION WEATHER REPORTING STATION (LAWRS) HOURS OF OPERATION

a. Facility air traffic managers must submit to System Operations Airspace and Aeronautical Information Management office the hours of operation with the date that the facility commences participation in the LAWRS program and any changes thereafter in the hours of participation.

b. All part-time terminal facilities must include sign ON/OFF procedures for the automated weather observation system in the facility opening/closing procedures.

**NOTE-**

*This includes LAWRS and tower visibility facilities.*

c. All LAWRS facilities must ensure the automated weather observation system equipment is added to the facility watch checklist.

#### **2-9-4. NONAVIATION WEATHER SERVICE**

Facilities must not enter into agreements with any person or office, including fixed-base operators, to provide weather data for property protection purposes. The FAA must not be responsible for providing weather information unless it is directly related to the actual or intended operation of aircraft. Personnel must not encourage nor solicit nonaviation weather activity. Refer requests for this type of weather information to the nearest WSO.

#### **2-9-5. NATIONAL WEATHER RECORDS CENTER**

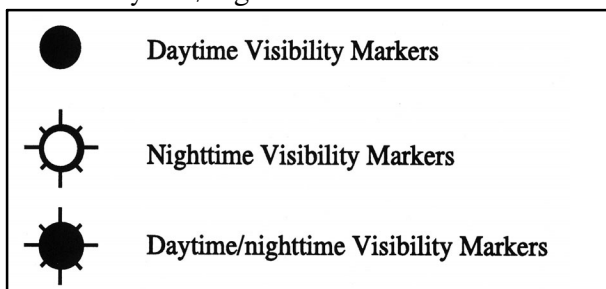
Refer requests for surface weather observations from non-aviation sources; e.g., requests from insurance companies for weather data relative to storm damage, to the National Weather Records Center, Environmental Data Service, Federal Building, Asheville, N.C., 28801.

#### **2-9-6. VISIBILITY CHARTS**

a. Air Traffic Managers at facilities that provide backup/augmentation of automated weather observations, manual observations, and/or tower visibility observations, must select a designee to prepare and maintain visibility charts as follows:

1. Prepare a chart(s) or list(s) for daytime and nighttime visibility markers. At local discretion, visibility markers may be depicted on separate daytime and nighttime charts or on a daytime/nighttime combination chart. Panoramic photographs marked with distances and cardinal compass points may also be used.

2. Daytime/Nighttime combination charts must use the following legend for each marker:



3. Each marker used must be identified and its distance from the observation point noted. Include the height of the marker if it is for estimating heights of clouds and obscuring phenomena.

4. Mapping programs, aircraft/vehicles, GPS and/or surveying equipment are all valid methods to develop visibility charts.

b. The air traffic manager must conduct an annual review and approve the visibility charts, lists, or photos to ensure their accuracy.

#### **2-9-7. SITING CRITERIA FOR VISUAL WEATHER OBSERVATIONS**

To give a proper indication of weather conditions in the areas of aircraft approaches, landings, and takeoffs, the site from which visual weather observations are made should ideally be the Airport Reference Point (ARP). If

## Section 5. Navigational Aids

### 3-5-1. NAVAID MONITORING

When a facility is assigned responsibility for monitoring NAVAIDs, the air traffic manager must issue monitoring instructions in a facility directive. Notification procedures must be coordinated with the appropriate sector manager.

**NOTE-**

*Monitoring assignments are made by air traffic offices in the Service Centers.*

**a. VOR/VORTAC:**

1. Aurally check the identification at the beginning of each watch.

**NOTE-**

*Upon commissioning of 2nd generation (FA-9996) VORs, aural monitoring is not required.*

2. Record the check in accordance with subparagraph 4-6-5g, Preparation of FAA Form 7230-4.

3. If a monitor Category 2 exists:

(a) Take appropriate action as indicated in FAA Order JO 7110.65, Air Traffic Control, paragraph 2-1-10, NAVAID Malfunctions.

(b) Notify the ARTCC.

**NOTE-**

1. VORs, VORTACs, and TACANs have an automatic course alignment and signal monitor (ACM). This monitor is usually connected to a remote alarm. An automatic transfer and shutdown unit (ATU) is installed as part of the ACM. When the ACM detects a malfunction, the ATU switches the range to a standby transmitter. If the standby transmitter does not work properly, the ATU will shut down the facility.

2. Monitoring of VOR test signals (VOT) is accomplished by a light or a buzzer monitor and is of local concern only.

3. VOR and VORTAC monitor categories:

a. Category 1: Alarm feature and identification heard at the control point.

b. Category 2: Monitor equipment failure and identification not heard at the control point, but aircraft reports indicate that the facility is operating normally.

c. Not constantly monitored by other than ACM and ATU.

**b. TACAN (joint-use airports):**

1. Aurally check the identification at the beginning of each watch.

2. Immediately notify the responsible military authority when an alarm is received.

3. Consider the aid inoperative when the alarm cannot be silenced and the identification cannot be heard on the aural monitor.

**NOTE-**

*The military authority will issue NOTAMs for TACANs.*

c. DME (to be monitored by the same facility that monitors the associated VOR, VORTAC, or ILS):

1. Press the VOR/DME control oscillator level to the "Facility On" position at the beginning of each watch.

2. Record the check in accordance with subparagraph 4-6-5h, Preparation of FAA Form 7230-4.

d. L/MF aids (to be monitored on a continuous basis):

1. Check the identification at the beginning of each watch.
  2. Record the check in accordance with subparagraph 4–6–5h, Preparation of FAA Form 7230–4.
- e. NDB (class MH, class H, and class HH):
1. Monitor continuously by automatic means the beacons used as IFR aids.
  2. Check the operation at least once each hour if an automatic alarm is not available.

f. ILS

1. Check the ILS monitor panel at the beginning of each watch and record the system status in accordance with subparagraph 4–6–5h, Preparation of FAA Form 7230–4.

2. Apply the procedures described in paragraph 3–5–2, System Component Malfunctions, when there are indications that a component has failed.

3. If you suspect that the indication is caused by a control line or a control station monitor failure rather than a malfunction of the component itself, take appropriate action as indicated in FAA Order JO 7110.65, paragraph 2–1–10, NAVAID Malfunctions. If a malfunction is confirmed, discontinue use of the component involved.

**NOTE–**

*Not all ILS components are provided with remote monitor and control lines (on/off capability). If the failure indication is caused by a control line or a control station monitor failure, the Technical Operations technician must advise if that component will be restored to operation and the monitor status.*

g. Compass locators:

1. Monitor continuously by automatic means.
2. Check the operation at least once each hour if an automatic alarm is not available.

3. If the provisions of subparagraphs 1 or 2 above cannot be met, the compass locator may be considered monitored if it is equipped with an automatic monitor and shutdown feature at the site. In this case responsibility for monitoring must not be assigned to the air traffic facility.

### **3–5–2. SYSTEM COMPONENT MALFUNCTIONS**

Take the following action when the alarm signal or a report indicates an air traffic system component malfunction:

- a. Try to restore the aid to normal operation.
- b. If unable to restore it, discontinue its use and:
  1. Notify the appropriate IFR control facility/sector.
  2. Notify the appropriate FSS as necessary.
  3. Notify Technical Operations personnel in accordance with FAA Order JO 6030.31, National Airspace System Failure Response, and locally developed procedures.
  4. Issue any necessary NOTAMs, and take other NOTAM related actions as appropriate.

**REFERENCE–**

*FAA Order JO 7210.3, Para 3–5–1, NAVAID Monitoring.*

*FAA Order 7930.2, Para 4–2–1, NOTAM Composition.*

**NOTE–**

*When Technical Operations personnel silence the monitoring system of any NAVAID, they will assume responsibility for the monitoring function.*

### **3–5–3. PROCESSING GPS ANOMALY REPORTS**

As soon as practicable, facilities must forward all information gathered, as per FAA Order JO 7110.65, Air Traffic Control, paragraph 2–1–10, NAVAID Malfunctions, subparagraph b, to the primary intake team for



mitigation via the GPS Anomaly Website: [https://www.faa.gov/air\\_traffic/nas/gps\\_reports](https://www.faa.gov/air_traffic/nas/gps_reports). The information may also be forwarded to the Wide-Area Augmentation System (WAAS) Team (1-800-272-2989 or 9-ATO-WAAS-Operations-Team@faa.gov), or to the traffic management unit (TMU), or to the appropriate Service Operations Center (SOC) for assistance in entering the data into the website.

#### **3-5-4. ORIGINATING NOTAMs CONCERNING NAVAIDs**

Air traffic facilities having responsibility for monitoring NAVAIDs must originate NOTAMs regarding their status unless otherwise directed by the Service Area office.



## Section 6. Surveillance Source Use

### 3-6-1. COMMISSIONING RADAR FACILITIES

#### a. Electronic Commissioning:

1. Subsequent to the initial installation of an ARSR/ASR system, the provisions of FAA Order 8200.1, United States Standard Flight Inspection Manual, Chapter 14, must be satisfied prior to the electronic commissioning of the facility.

2. Major equipment modifications or major component changes to existing installations may necessitate a special flight check to reaffirm that the radar is continuing to meet the original commissioning criteria. When such a change is made, the new type equipment must be electronically commissioned in accordance with subparagraph 1 above.

3. If ASR equipment cannot meet the surveillance approach requirement during the flight check, consider this phase of the flight check as secondary and commission the equipment for its primary purpose of providing radar traffic control service.

#### b. Operational Implementation:

1. When a radar facility is to be commissioned, a 60-day period of use (without the application of radar separation standards) should elapse between the electronic commissioning date and the inauguration of radar air traffic control service. This period will permit controllers to gain experience in tracking, vectoring, and identification. It will better ensure a full understanding of the equipment, procedures, and services to be provided. However, this 60-day period is not mandatory and may be reduced or eliminated provided NOTAM requirements can be satisfied and the Service Area office is assured that the intended service can be carried out in a safe and efficient manner.

2. Only one phase of service should be implemented at a time. A period of 30 to 60 days should elapse between the implementation of subsequent phases. For example, ARTCCs may initiate en route service on specific routes or within specified areas; terminals may implement either arrival or departure service 30 to 60 days prior to expanding to other areas/services. Advertised services must be implemented on an all-aircraft basis and must be accomplished in accordance with FAA Order JO 7110.65, Air Traffic Control. If services are initially implemented on a "part-time" basis, the daily hours (preferably 8 hours or longer) must be specified in the aeronautical information message and the advertised services maintained during those hours. The extent and types of service will be dependent upon operational requirements, personnel, and equipment capabilities. The schedule of radar service implementation must be jointly determined by the facility air traffic manager and the Service Area office. Service Area office approval is required prior to the implementation of each phase of radar service.

3. A review of the existing LOA must be accomplished to ensure that necessary changes are made or that new agreements are consummated and approved prior to implementing any phase of radar traffic control. Airspace areas for which radar terminal facilities have responsibility should include sufficient vector areas for:

(a) Positioning and spacing of arriving aircraft en route to the airport from outer fixes or radar handoff points.

#### **NOTE-**

*Normally, no less than two nor more than four outer fixes are used to serve a single approach course. These fixes are normally located to permit simultaneous holding at the same altitude. When only one radar approach control position is used, two outer fixes are optimum. If two radar approach positions are available, four fixes are optimum.*

(b) Spacing and control of departing aircraft and aircraft executing missed approaches.

(c) Positioning and spacing transitioning aircraft.

**c. Notification Procedures:**

1. Issue an aeronautical information message for each location at least 30 days prior to and again immediately following implementation of radar ATC procedures containing the following:

- (a) Nature of service; e.g., departure, arrival, en route.
- (b) Proposed or effective date.
- (c) Specific airspace affected.
- (d) Hours of service if less than 24 hours per day.

**EXAMPLE–**

*BAKERSFIELD, CALIFORNIA, SURVEILLANCE RADAR EXPECTED TO BE COMMISSIONED ON OR ABOUT JUNE 15, 2004. RADAR AIR TRAFFIC CONTROL SERVICE USING RADAR SEPARATION STANDARDS WILL BE APPLIED AS APPROPRIATE. SERVICE WILL BE PROVIDED DAILY BETWEEN THE HOURS OF 1400–2300Z WITHIN 40-MILE RADIUS OF BAKERSFIELD.*

2. When an additional service is to be implemented or a change in programmed areas of application is made, issue an aeronautical information message delineating that new service. Advance notice is desirable. However, it is not mandatory, and the aeronautical information message may be issued concurrently with the inauguration of the extended radar service.

3. When a change in ARSR/ASR equipment is made, issue an aeronautical information message if a modification to existing service will result and/or if a break in service of more than 30 minutes will occur.

4. A copy of each memorandum/aeronautical information message for inclusion in the Domestic Notices website must be sent to Mission Support Services, Policy, Publications and Administration (AJV–P12) via 9–ATOR–HQ–PubGrp@faa.gov, Manager, Flight Service Safety and Operations Policy Group (AJR–B100) via 9–AJR–FSSOG@faa.gov, Aeronautical Information Services (AJV–A) via <https://nfdc.faa.gov/nfdcApps/controllers/PublicSecurity/nfdcLogin>, and the appropriate Service Area Directors.

**3–6–2. ATC SURVEILLANCE SOURCE USE**

a. Surveillance sources that are approved for ATC use are Primary Radar, Secondary Radar, ADS-B and WAM. Approved ATC Surveillance Sources may be used for:

- 1. Surveillance of aircraft to assure the effective use of airspace.
- 2. Vectoring aircraft to provide separation and radar navigation.
- 3. Vectoring aircraft to final approach.
- 4. Vectoring IFR aircraft to the airport of intended landing.
- 5. Monitoring instrument approaches.
- 6. Providing radar traffic, weather, chaff, and bird activity information.
- 7. Providing assistance to pilots of aircraft in distress.

b. Approved terminal ATC Surveillance Sources may also be used for:

- 1. Conducting precision or surveillance approaches.
- 2. Formulation of clearances and control instructions based on runways and movement areas observable on the ASDE.

**NOTE–**

*In accordance with FAA Order JO 7110.65, Chapter 3, Airport Traffic Control – Terminal, Section 6, Airport Surface Detection Procedures.*

c. Targets derived from WAM may not be used to provide 3 mile separation in the En Route Automation System (EAS).

**NOTE–**

*3 NM targets are not derived from WAM within the EAS.*

d. Targets derived from ADS–B and WAM may be used for the provision of all terminal services when operating in STARS Fusion, STARS FMA, and STARS Multi-Mode, including those associated with any published instrument procedure annotated “radar required.”

### **3–6–3. MONITORING OF MODE 3/A RADAR BEACON CODES**

a. Facility air traffic managers may assign Mode 3/A codes to be monitored in addition to those required by FAA Order JO 7110.65, Air Traffic Control, Chapter 5, Section 2, Beacon Systems.

b. A facility directive must be issued establishing facility standards for displaying required transponder replies in all available operational modes.

c. Where desirable, beacon targets may be displaced at a slightly greater range than their respective primary returns. When beacon displacement is elected, issue a facility directive specifying the standard relationship between primary returns and the beacon control slash of secondary returns. The maximum allowable beacon target displacement which may be specified by the facility air traffic manager is 1/4 mile for STARS and 1/2 mile applied in 1/4 mile increments for all other facilities.

### **3–6–4. RADAR TARGET SIZING**

a. Minimum target size for terminal radar systems using terminal digital radar or full digital target symbols, except for MEARTS, must not be less than the minimum target size shown in Technical Operations’ orders concerning the maintenance of terminal digital radar. The target symbol must be centered on the terminal digital radar/full digital system type target presentation.

**NOTE–**

*Target size is fixed in MEARTS regardless of range or data block character size.*

b. When operating in FUSION, the minimum target size for Precision Approach Monitor (PAM) operations and for the normal use of tower radar displays is 1,200 feet. The target symbol must be centered on the terminal digital radar/full digital system type target presentation.

**NOTE–**

*Increased separation required (ISR) will be required for aircraft outside the range for PAM or other normal use of certified tower radar displays.*

### **3–6–5. TERMINAL DIGITAL RADAR SYSTEM AND DISPLAY SETTINGS**

a. The following system settings for the terminal digital radar/DVCP must be established in a facility directive.

1. Normal weather setting positions when 2–level weather is selected on the system control panel.
2. MEARTS normal weather setting positions when 3–level weather is selected on the system control panel.
3. Normal weather setting positions when 6–level weather is selected on the system control panel.
4. Name, range/azimuth, altitude, and coordinates of prominent obstructions.
5. Azimuth and range settings of moving target indicator (MTI) reflectors used for map alignment.
6. Position Adjustable Range Reference Orientation Transponders (PARROT) used for map alignment location. Not applicable to a Digital Terminal Automation System (DTAS).

**b.** The following display settings must be established in a facility directive, except for MEARTS:

1. Weather/Radar Gate normal setting.
2. Position startup weather level settings.

**c.** Facilities that utilize a digital system that does not concurrently display all levels of precipitation (ASR-8/TDX2000) must establish a procedure via facility directive that ensures periodic monitoring of all precipitation level ranges during precipitation events.

**d.** The air traffic manager and Technical Operations System Support Center (SSC) manager must prepare a local order defining the procedures needed to protect the antenna, shutdown the antenna, transfer power between high and low voltage, and transfer from one channel to another channel.

### **3-6-6. PREARRANGED COORDINATION**

**a.** Air traffic managers at radar facilities must determine whether or not a clear operational benefit will result by establishing prearranged coordination procedures (P-ACP). Such procedures would allow aircraft under one controller's jurisdiction to penetrate or transit another controller's airspace in a manner that assures approved separation without individual coordination for each aircraft. When reviewing existing P-ACPs, or contemplating the establishment of these procedures, consideration must be given to airspace realignment to preclude coordination/penetration of another operational position's airspace. Prior to implementing a P-ACP, negotiations should be accomplished locally and all affected personnel must be thoroughly trained in the application of the procedures.

**b.** When P-ACPs are established, a facility directive must be published. The directive must include, as a minimum:

1. Requirement that the following are fully operational.

(a) Terminal- STARS

(b) En Route- SDP, FDP, and safety alert (CA, MCI, E-MSAW) processing.

2. Procedures to be applied in the event that prearranged coordination procedures are not practicable.

3. The position(s) authorized to penetrate the protected airspace of an adjacent position.

4. Detailed responsibilities relating to P-ACP for each position.

5. The requirement that two positions of operation cannot be authorized to penetrate each other's airspace simultaneously.

6. Controllers who penetrate another controller's airspace using P-ACP must display data block information of that controller's aircraft which must contain, at a minimum, the position symbol and altitude information.

7. Controllers who penetrate another controller's airspace using P-ACP must determine whether the lead aircraft requires wake turbulence separation behind it.

#### **REFERENCE-**

FAA Order JO 7110.65, Para 5-5-4, *Minima, Subpara f.*

8. Procedures to be applied for those modes of operation when the computer fails or is shut down, the beacon fails and only primary is available, and for nonbeacon aircraft or at automated facilities aircraft without an associated full data block.

#### **REFERENCE-**

FAA Order JO 7110.65, Para 5-4-10, *Prearranged Coordination.*

### **3-6-7. OPERATIONAL GUIDANCE FOR FUSION**

**a.** During normal operations, Fusion must be the selected mode to the extent that it is operationally feasible. The terminal Air Traffic Manager, or their designee, must decide if the fusion tracker is usable.

1. If a decision is made to discontinue use of the fusion tracker at specific sectors or facility-wide, the Air Traffic Manager, or their designee, must notify Operational Policy and Implementation, AJT-2, through the appropriate service area Director of Air Traffic Operations.

2. The intent of this notification is to ensure the service area Director of Air Traffic Operations, Operational Policy and Implementation, AJT-2, and the program office are aware of the operational status and are providing all capable resources to return to Fusion operations at the affected position/facility.

3. Fusion outages due to a planned radar shutdown of short duration need not be reported.

b. During radar outages, operational alternatives, or contingency plans, must be developed and included in a facility directive that address requirements when there is degradation in the Fusion environment due to sensor availability. The steps must be pre-determined and may be implemented facility-wide or sector specific.

1. Facilities should switch to single sensor mode if there are impacts to the efficiency of facility operations due to degradation in the sensor environment while operating in Fusion mode.

**NOTE-**

*ADS-B and WAM are not selectable sources when in single sensor mode.*

2. Facilities should use single sensor mode in airspace that is restricted to the use of one long-range radar which can cause anomalies (for example, stitching or target jumping). Facilities should continue to operate in single sensor mode until adequate ADS-B equipage levels are reached, an additional sensor is available, or it is determined by management that an operational advantage is gained by remaining in Fusion.

3. Facilities may use multi-sensor mode when the sensor environment does not support the use of FUSION and use of single sensor does not provide sufficient surveillance coverage.

**NOTE-**

1. *Multi-sensor mode uses radar, ADS-B, and/or wide area multilateration (WAM) surveillance data, where available, and may provide expanded.*

2. *Multi-sensor mode does not support 3 NM separation.*





2. Where any part of an MVA Sector is more than 65 NM from the issued altimeter source.
3. When all of the following conditions are applicable:

- (a) the MVA Sector is within designated mountainous areas by 14 CFR Part 95,
- (b) the terrain is deemed precipitous by facility Air Traffic Management,

(c) the previous 5 year average low temperature at the primary airport is documented to be less than the temperature shown in TBL 3-8-1 for the amount of ROC reduction requested. Retain temperature documentation locally with approved 7210-9. Use TBL 3-8-1 to determine the extent of mountainous terrain reduction permitted if rounding down, based on the average low temperature. Comply with the following process to determine the average low temperature.

- (1) Go to the National Center for Environmental Information website at [www.ncei.noaa.gov](http://www.ncei.noaa.gov).
- (2) Mouse over the “Resources” link on the blue bar.
- (3) Click on “Quick Links.”
- (4) Click on “Global Historical Climatology Network” link.
- (5) Click on “Global Summary of the Year.”
- (6) Accept the default date, select “Stations” in the search for field, then enter the station representing the primary airport. Then click on search.
- (7) Click on the airport name. When the page opens, scroll down to “View Station Data.” Select the year interested in. Then view data.
- (8) A report will appear, then go to the second page. Document the EMNT value. Select each relevant year and document the EMNT for that year. Then calculate the 5-year average.

*TBL 3-8-1*  
**ROC Reduction/Temperature Table**

Requested ROC Reduction	Minimum Average Low Temperature
100'	-40°C/-40°F
200'	-35°C/-31°F
300'	-30°C/-22°F
400'	-25°C/-13°F
500'	-20°C/-4°F
600'	-15°C/5°F
700'	-10°C/14°F
800'	-5°C/23°F
900'	0°C/32°F
1000'	7°C/45°F(2°C/36°F when MVA sector is within 35 NM of issued altimeter)

**h.** Managers requesting to waive criteria contained in FAA Order 8260.3, must submit FAA Form 8260-1, Flight Procedures/Standards Waiver in conjunction with the MVA project. This waiver form will contain the criteria requested to be waived, with the operational need fully explained, and examples of how the facility will achieve an equivalent level of safety, if approved. The package will be sent to the Radar Video Mapping Team through the Service Center OSG. Upon completion of the Radar Video Mapping Team review, the package will be forwarded to the Flight Procedure Implementation and Oversight Branch. For the Flight Standards Waiver process, facility managers do not need to complete a Safety Management System evaluation. An electronic copy of the completed waiver package must be sent to the Operational Policy and Implementation Directorate, AJT-2, at 9-AJT-HQ-Correspondence.

**i.** MVAs must not be below the floor of controlled airspace and should provide a 300-ft buffer above the floor of controlled airspace. In some cases, this application will result in an exceptionally high MVA (for example,

in areas where the floor of controlled airspace is 14,500 MSL). When operationally required to vector aircraft in underlying Class G (uncontrolled) airspace, 2 MVAs may be established. The primary MVA must be based on obstruction clearance and the floor of controlled airspace. A second, lower MVA that provides obstruction clearance only may be established. The obstruction clearance MVA must be uniquely identified; for example, by an asterisk (\*). Do not consider buffer areas for controlled airspace evaluations.

j. If new charts prepared using SDAT create a significant impact on a facility's operation, the impact must be coordinated with the Operational Policy and Implementation Directorate, AJT-2, for joint coordination with System Operations.

**NOTE-**

*Significant impacts include changes to flight tracks for turbine-powered aircraft, multiple losses of cardinal altitudes, and/or reductions in airport arrival/departure rates.*

k. Air traffic managers may request to merge adjoining, like altitude MVA sectors that resulted from using differing design criteria provided the merged sectors are identified in the remarks on FAA Form 7210-9 and a statement is included with each affected sector that the merged sectors are for Radar Video Map (RVM) presentation only; for example, Sector B, B1, and B2 are to be merged in SDAT shape files for RVM presentation only.

l. Air traffic managers must submit the request for MVACs to the appropriate Service Center OSG for review. The Service Center OSG must then forward the requested MVAC to the Radar Video Mapping Team for processing.

m. Each request must indicate the MVAC was accomplished in Web-SDAT, stored in the Web-SDAT database and when necessary, include a statement regarding the issued altimeter settings being within 65 NM of a rounded down sector and/or provides the 5-year average cold temperature.

n. Each request must include the SDAT generated Form 7210-9 with the manager's signature and point of contact at the submitting facility. Form 7210-9 must also be an electronic copy with the manager's signature, and imported into the MVA project file. When applicable, each Form 7210-9 must include explanations/justifications for ROC reduction requests. The MVA request with the 7210-9 will be electronically forwarded to the OSG. When the capability of electronic signatures is developed within SDAT, Form 7210-9 may be transmitted electronically between the facility, Service Center, and Radar Video Mapping Team in lieu of the paper process. SDAT will automatically store the approved MVAC package in the National Airspace System Resource (NASR).

o. When more than one chart is used, prepare those charts with the oldest review/certification date(s) first to help avoid lapses in annual review/certification requirements.

p. New charts that result in significant operational impacts must not be implemented by air traffic managers until associated changes to facility directives, letters of agreement, and controller training are completed within a period not to exceed 6-months from new chart certification.

q. Once a chart without significant operational impacts has been approved, it must be implemented as soon as possible. MVAC installations projected to be more than 60 days from date of approval must be coordinated with and approved by the Service Center OSG.

r. Air traffic managers must ensure that MVACs are periodically reviewed for chart currency and simplicity and forwarded for certification to the Radar Video Mapping Team at least once every 2 years. Charts must be revised immediately when changes affecting MVAs occur.

### **3-8-3. ALTITUDE ASSIGNMENTS TO S/VFR AND VFR AIRCRAFT**

Where procedures require altitude assignments to S/VFR and VFR aircraft less than the established IFR altitude or MVA, facility air traffic managers must determine the need and the method for displaying the appropriate minimum altitude information.

**REFERENCE-**

FAA Order JO 7110.65, Para 7-5-4, Altitude Assignment.

FAA Order JO 7110.65, Para 7-8-5, Altitude Assignments.

**3-8-4. EMERGENCY OBSTRUCTION VIDEO MAP (EOVM)**

**a.** An EOVM must be established at all terminal radar facilities that have designated mountainous areas as defined in 14 CFR Part 95, Subpart B, within their delegated area of control. This map is intended to facilitate advisory service to an aircraft in an emergency situation in the event an appropriate terrain/obstacle clearance minimum altitude cannot be maintained.

**NOTE-**

*Appropriate terrain/obstacle clearance minimum altitudes may be defined as MIA, MEA, Minimum Obstruction Clearance Altitude (MOCA), or MVA.*

**b.** EOVM Use: The EOVM must be used and the advisory service provided only when a pilot has declared an emergency or a controller determines that an emergency condition exists or is imminent because of the inability of an aircraft to maintain the appropriate terrain/obstacle clearance minimum altitude/s.

**c.** EOVM Design:

**1.** The basic design of the EOVM must incorporate the following minimum features:

**(a)** Base contour lines of the mountains with the highest peak elevation of each depicted mountain plus 200 feet for natural low obstacle growth.

**(b)** Highest elevations of adjacent topography; e.g., valleys, canyons, plateaus, flatland, etc., plus 200 feet, or water.

**(c)** Prominent man-made obstacles; e.g., antennas, power plant chimneys, tall towers, etc., and their elevations.

**(d)** Operational airports which could serve in an emergency as follows:

**(1)** Primary Airport,

**(2)** Public-use satellite airports, and

**(3)** Private airports, only after declaration by the airport owner that the airport is suitable for emergency use. Facility validation of suitability for emergency use must be documented every two years during the EOVM coordination process with AJV-A and retained in facility files.

**NOTE-**

**1.** *Mission Support Services, Aeronautical Information Services, AJV-A2 will verify the accuracy of video maps they produce to ensure the video maps depict only operational airports as defined by the Office of Airport Safety and Standards, AAS-1. Facilities will be notified by AJV-A2 that a new EOVM will be sent when a depicted airport is no longer operational.*

**2.** *AJV-A2 has developed a local template that will be provided to the facility when the coordination process starts. In addition, those facilities depicting private airports will be expected to fill out the template and return to AJV-A2 during the EOVM review process.*

**(e)** Other information deemed essential by the facility.

**NOTE-**

*To avoid clutter and facilitate maintenance, information depicted on the EOVM should be restricted to only that which is absolutely essential.*

**2.** All elevations identified on the EOVM must be rounded up to the next 100-foot increment and expressed as MSL altitudes.

**NOTE-**

*To avoid unnecessary map clutter, the last two digits are not required.*

**EXAMPLE-**

*2=200, 57=5700, 90=9000, 132=13200*

**d. EOVM Production:** The initial preparation and procurement of the EOVM must be accomplished in accordance with FAA Order 7910.1, Aeronautical Video Map Program.

**e. EOVM Verification:** The initial and subsequent EOVM procurement package must be checked for adequacy and then coordinated with AJV–A2 to verify the accuracy of its information. At least once every 2 years, the EOVM must be reviewed for adequacy and coordinated with AJV–A2 for accuracy.

**f. Facilities will receive a new EOVM from AJV–A2, regardless of whether changes were made or requested. ATMs must revise maps immediately when changes affecting the EOVM occur. Newly received EOVMs must be implemented by facility managers as soon as possible, but no later than 60 days after the map production date.**

**NOTE–**

*AJV–A2’s review cycle may not be the same as a facility’s 2–year review cycle. In an effort to reduce duplication of work, ATMs should align their 2–year review dates with that of AJV–A2’s review.*

**g. Similar maps often titled VFR or EMERGENCY are EOVM–like maps. These video maps do not follow the EOVM validation process, except for the depiction of operational private airports. Facilities must follow the provisions of c1(d)(3) above concerning suitability for depiction. AJV–A2 will provide their local template during coordination of the video map for private airport depiction.**

### **3–8–5. ESTABLISHING DIVERSE VECTOR AREA/S (DVA)**

**a. DVAs may be established at the request of the ATM at ATCT locations without published SIDs. DVA requests will be coordinated jointly with the appropriate Service Area respective OSG and Mission Support Services, Instrument Flight Procedures Group, for candidate airports within the facility’s area of jurisdiction after considering and fulfilling the following steps:**

**1. DVAs should be considered when obstacles penetrate the airport’s diverse departure obstacle clearance surface (OCS). The OCS is a 40:1 sloping surface and is intended to protect the minimum 200 feet/NM climb gradient. If there are no obstacle penetrations of this surface, then standard takeoff minimums apply, obstacle clearance requirements are satisfied, and vectoring of IFR aircraft is permitted below the MVA/MIA.**

**2. When the OCS is penetrated, the Instrument Flight Procedures Group procedural designer may develop an obstacle departure procedure (ODP). An ODP may consist of obstacle notes, nonstandard takeoff minimums consisting of nonstandard ceiling and visibility or climb gradient, a specified departure route, or any combination thereof. If an ODP is developed for a runway, it may be a candidate for a DVA. The ATM must determine that sufficient surveillance coverage exists for any airport with a published instrument approach and an operating control tower.**

**3. Where established, reduced air traffic separation from obstacles, as provided for in TERPS diverse departure criteria, can be used to vector departing IFR aircraft below the MVA/MIA.**

**4. To assist in determining if obstacles penetrate the 40:1 surface, ATMs may request the Instrument Flight Procedures Group or the Service Center Flight Procedures Team (FPT) to provide a graphic depiction of any departure penetrations.**

**5. If the location is listed in the Terminal Procedure Publication (TPP) index, check the take–off minimums and (Obstacle) Departure Procedures in section C of the TPP for the DVA runway. If nothing is listed, or only obstacle notes appear, then a DVA is not necessary. If a DP appears, development of a DVA becomes an option.**

**6. If the location is not listed, query the AIS website at [http://www.faa.gov/air\\_traffic/flight\\_info/aeronav/Aero\\_Data/](http://www.faa.gov/air_traffic/flight_info/aeronav/Aero_Data/) and select the Special Procedures link to determine if a “special” instrument approach procedure exists at that airport/heliport. If there is a special procedure, the Regional Flight Standards All Weather Office (AWO) can supply FAA Form 8260–15A for ODP information when requested by the facility.**

**NOTE–**

*If the TPP or AWO indicates IFR departures N/A for any given runway, then a DVA is not authorized.*

7. If the ATM elects to request a DVA, use the sample memorandum below as a guide (see FIG 3–8–1). Specify if the request is to establish, modify, or cancel a DVA. If modifying or canceling a DVA, attach the memorandum that authorizes the current DVA. The DVA request must include the following:

- (a) Airport identifier.
- (b) Desired DVA runway(s).
- (c) Requested DVA method. Specify a range of operational headings by starting from the extreme left heading proceeding clockwise (CW) to the extreme right heading as viewed from the departure runway in the direction of departure (for example, Runway 36, 290 CW 120), or isolate a penetrating obstacle(s) by identifying that obstacle(s) either by DOF number or range/bearing from airport.
- (d) Maximum Extent (Distance) from Departure Runway.
- (e) Radar Type/Beacon Type. Provide whether the facility has an ASR–8, 9, or 11, and its associated beacon system or monopulse secondary surveillance radar (MSSR), if applicable.
- (f) Facility Hours of Operation.

*FIG 3-8-1*  
Sample DVA Memo



## Federal Aviation Administration

---

# Memorandum

Date: March 10, 2011

To: John Bickerstaff, Manager, Terminal Procedures and Charting Group, AJV-35  
 THRU: Mark Ward, Manager, Eastern Operations Support Group, AJV-E2

From: Steve Jones, Air Traffic Manager, XYZ TRACON

Prepared by: Joseph B. Specialist, Support Specialist

Subject: Diverse Vector Area (DVA) Request

---

XYZ TRACON requests the following DVA action as specified for the following airport(s) based on the information provided below:

<u>ACTION</u>	<u>AIRPORT</u>	<u>RWY</u>	<u>REQUESTED DVA METHOD</u>	<u>DIST FROM RWY</u>
ESTABLISH	KABC	35R	<b>Range of Headings</b> 320 CW 020	Within 18NM
ESTABLISH	KABC	17L	<b>Range of Headings</b> 140 CW 200	Within 20NM
MODIFY	KXYZ	15	<b>Isolate Penetrating Obstacle</b> DOF 05-00234	
CANCEL	KDEF	22		

Radar Type/Beacon Type: ASR-8 with ATCBI-5

Hours of Operation: 0600-2300 local

POC is Joe Specialist, XYZ TRACON, 416-555-9988.

Attachments:

1. KXYZ DVA authorization memorandum dated October 28, 2008.
2. KDEF DVA authorization memorandum dated February, 16, 2009.

2. Flight service stations may use an automated version of FAA Form 7230-4 or establish local forms and procedures for recording, disseminating, and documenting the resolution of MORs. Local forms used for recording this information are considered supplements to FAA Form 7230-4 and must be filed with it.

i. Place a large letter “E” in the left hand margin beside entries on equipment malfunctions. The “E” must also be used when equipment is restored to service. The “E” is not required for facilities using local forms if procedures are established in accordance with subparagraph g.

**NOTE-**

*The “E” is to be used on entries related to equipment problems which require Technical Operations involvement. The “E” is not required for routine maintenance items or for carryover entries on previously entered equipment malfunctions.*

j. Employees other than the person responsible for the watch who make an entry must initial or enter initials for each of their own entries.

k. Use additional forms as necessary to complete the reporting of the day’s activity.

l. Make an entry closing out FAA Form 7230-4 at the close of business.

m. The air traffic manager, or his/her designee, must initial the form after reviewing the entries to ensure that the facility operation is adequately and accurately described.

**4-6-6. FAA FORM 7230-10, POSITION LOG**

a. Air traffic managers must ensure that FAA Form 7230-10, Position Log, or an automated sign on/off procedure is used for position sign on/off. FAA Form 7230-10 must be prepared daily. All logs, including automated ones, must reflect 24 hours or the facility’s official operating hours, if less than 24 hours daily.

b. Position logs must be used as the sole-source record for on the job training instructor (OJTI) and evaluator time and premium pay. As a supporting document for time and attendance (T&A) purposes, position logs which document on the job training (OJT) time must be retained for one year prior to destruction.

c. Prepare FAA Form 7230-10 as follows:

1. Field 1 must contain the facility three-letter identification code.

2. Field 2 must contain a position identifier that is a maximum of five letters and/or numbers, starting in the first space on the left side of the field. Unused spaces must be left blank.

(a) *ARTCCs*: ARTCCs must use sector identifiers which have been approved by the En Route and Oceanic Area Office.

(b) *TERMINALS and FSSs*: When there is more than one position of a particular type, establish and use individual identifiers for each position. When only one position of a particular type exists, this field may be left blank.

3. Field 3 must contain a maximum of two letters to show the position type, as follows:

(a) *ARTCCs*: Starting on the left side of the field, use position codes as follows:

*TBL 4-6-1*  
**Field 3 - ARTCC**

<i>Designator</i>	<i>Position</i>
A	Assistant Controller
D	Nonradar Control
F	Flight Data
H or RA	Handoff, Tracker or Radar Associate
R	Radar Control
TM	Traffic Management
O	Other Positions

(b) *Terminals*: Use two-letter position codes as follows:

*TBL 4-6-2*  
**Field 3 – Terminal**

<i>Designator</i>	<i>Position</i>
<b>Tower</b>	
AC	Approach Control Cab
CC	Coordinator Cab
CD	Clearance Delivery
FD	Flight Data
GA	Ground Control Assistant
GC	Ground Control
GH	Gate Hold
LA	Local Control Assistant
LC	Local Control
SC	Supervision Cab
<b>TRACON</b>	
AP	Approach Control TRACON
AR	Arrival Radar
CI	Coordinator TRACON
DI	Data TRACON
DR	Departure Radar
FM	Final Monitor Radar
FR	Final Radar
HO	Handoff TRACON
NR	Nonradar Approach Control
PR	Precision Approach Radar
SI	Supervision TRACON
SR	Satellite Radar
<b>Tower/TRACON</b>	
TM	Traffic Management



### 10-3-6. ILS HEIGHT/DISTANCE LIMITATIONS

a. An ILS is normally flight checked to 4,500 feet and 18 miles for the localizer and to 4,500 feet and 10 miles for the glide slope.

b. If an operational need to exceed these limitations exists, ATC submits an Expanded Service Volume (ESV) request IAW 8260.19, with a description of the flight procedure requiring it. Flight inspection must validate the ESV.

### 10-3-7. LAND AND HOLD SHORT OPERATIONS (LAHSO)

a. The air traffic manager must determine a valid operational need exists before conducting simultaneous takeoff and landing or simultaneous landing operations. This need may be considered evident if:

1. Present airport capacity/arrival rate will be increased; and
2. Arrival/departure delays will be reduced; and
3. A reasonable savings in fuel consumption will result.

b. Before authorizing simultaneous takeoff and landing or simultaneous landing operations as specified in the current LAHSO directive.

1. Coordinate with each of the appropriate Flight Standards field offices having jurisdiction at the airport according to the type of aircraft operations involved and with user groups as required by paragraph 4-2-4, Coordination of ATC Procedures, including the appropriate military authority where units are based at the airport.

**NOTE-**

*Appropriate Flight Standards offices are: the ACDO for air carrier operations or the FSDO or both/either.*

2. Prepare a facility directive using the information as specified in the current LAHSO directive prescribing procedures for conducting these operations. The directive must contain a diagram that depicts the airport runway configuration, identifies the configuration to be used, and specifies the Available Landing Distance (ALD) from the landing threshold to the Hold-Short Point.

**NOTE-**

*Any aircraft that is not listed in the current LAHSO directive must not be considered for LAHSO.*

**REFERENCE-**

*FAA Order JO 7110.65, Para 3-10-4, Intersecting Runway Separations.*

3. Ensure the directive identifies the eligible aircraft which may operate on each runway, based on the ALD, current LAHSO directive, and/or FAA Order JO 7360.1, Aircraft Type Designators.

4. Provide a list of runways authorized for LAHSO, along with the appropriate ALD to System Operations Airspace and Aeronautical Information Management, for publication in the Chart Supplement and appropriate U.S. Terminal Procedures Publications.

5. Conduct user briefings at least 45 days before implementation.

c. Air traffic managers must obtain concurrence from the appropriate Flight Standards field offices and conduct a preliminary environmental review before conducting LAHSO.

**REFERENCE-**

*FAA Order 1050.1, Policies and Procedures for Considering Environmental Impacts.*

**NOTE-**

*This is only applicable to those facilities not currently conducting LAHSO operations.*

### 10-3-8. LINE UP AND WAIT (LUAW) OPERATIONS

a. The ATM must:

1. Determine an operational need exists before conducting LUAW operations.
2. Before authorizing LUAW operations, conduct a review of the impact that airport configuration and local conditions may have on the application of LUAW procedures.
3. Prepare a facility directive. The directive must prescribe items (a) through (d). Items (e) through (i) must be included if applicable.

(a) Local procedures for conducting these operations.

(b) Methods to assist the local controller in maintaining awareness of aircraft positions on the airport, for example, annotating flight progress strips or marking the location of aircraft with color-coded chips on a magnetic diagram of the airport.

**REFERENCE-**

*FAA Order JO 7210.3, Para 10-1-7, Use of Active Runways.*

(c) The consolidation and staffing of positions.

(d) The requirements necessary for issuing a landing clearance with an aircraft holding in position.

(1) The safety logic system must be operated in full core alert runway configuration.

(2) The reported weather must be ceiling of 800 feet or more.

(3) The reported visibility must be 2 miles or more.

**REFERENCE-**

*FAA Order JO 7110.65, Para 3-9-4, Line Up and Wait (LUAW), subpara c1.*

*FAA Order JO 7110.65, Para 3-10-5, Landing Clearance, subpara b.*

(e) Runway geometry, for example, the physical configuration of runways and other airport movement areas.

(f) Weather conditions, time of day, for example, prevailing light conditions.

**REFERENCE-**

*FAA Order JO 7110.65, Para 3-9-4, Line Up and Wait (LUAW), subpara c1 and g.*

(g) Fleet mix.

**REFERENCE-**

*FAA Order JO 7110.65, Para 3-9-6, Same Runway Separation.*

*FAA Order JO 7110.65, Para 3-9-7, Wake Turbulence Separation for Intersection Departures.*

*FAA Order JO 7110.65, Para 3-9-8, Intersecting Runway Separation.*

(h) Traffic volume; complexity restrictions.

(i) Obstructions or limitations to visibility from controller-to-aircraft and aircraft-to-aircraft perspectives.

4. Local control position must not be consolidated/combined with any other non-local control position. For example, local control must not be consolidated/combined with the operations supervisor (OS)/controller-in-charge (CIC) position, clearance delivery, flight data, ground control, cab coordinator, etc. Local control can be combined with other local control positions to include tower associate (local assist) or local monitor position. When a Class B/helicopter position with defined control tower airspace is established, this position can be combined with local control.

5. The tower associate (local assist) position or a local monitor position must be staffed to permit more than one aircraft at a time to LUAW on the same runway between sunrise and sunset.

6. The OS/CIC position should not be combined with any other position.

7. Ensure OS/CICs review paragraph 2-6-1a, Watch Supervision, with an emphasis on maintaining situational awareness and management of the operational environment with a goal toward eliminating distractions.

8. Do not authorize LUAW operations at an intersection between sunset and sunrise unless the following is implemented:

2. The display of those prominent obstacles on a video map, consistent with the assigned flight path, that influence the determination of the authorized headings. Prominent obstacles, as defined in the Pilot/Controller Glossary, can be determined with the assistance of the Service Center FPT. When no prominent obstacles are identified, the facility directive must include a statement of this determination.

3. A statement that air traffic is responsible for terrain and obstruction avoidance when vectoring aircraft, not on a published procedure below the MVA/MIA during climbout, and are assumed to climb at the minimum climb gradient of 200 feet/NM.

**REFERENCE-**

FAA Order JO 7110.65, Para 5-6-3, Vectors Below Minimum Altitude.

FAA Order 1050.1, Environmental Impacts: Policies and Procedures.

c. Facility air traffic managers may develop procedural mitigations for non-intersecting converging runways when a 1 NM extension of the runway centerline crosses the centerline of the other runway or the 1 NM extensions of a runway cross the extension of another runway. Facility directives must:

1. Specify procedures to ensure that an arrival that executes a go-around does not conflict with a departure off the non-intersecting converging runway.

2. Define technological tools that could assist in the locally developed procedures.

3. Specify procedures to be used when conditions dictate that intersecting runway separation standards must be applied.

**NOTE-**

The locally developed procedure will ensure that the potential go around aircraft will not conflict with a departing aircraft that is departing the non-intersecting converging runways. All locally developed procedures will be approved by the Director, Operational Policy and Implementation, AJT-2. ATMs will determine what tools are needed in the development of local procedures. These may include, but are not limited to:

a. Arrival Departure Window (ADW)

b. ASDE-X/ASSC Virtual Runway Intersection Point (VRIP)

c. Cutoff Points (CP) developed with the use of enhanced TARGETS.

**REFERENCE-**

FAA Order JO 7110.65, Para 3-9-9, Non-intersecting Converging Runway Operations.

d. The procedures must be evaluated on an annual basis to determine their effectiveness.

e. A facility may be permitted to conduct independent non-intersecting Converging Runway Operations (CRO) without use of the mitigations as defined in subparagraph c, when the following conditions are met:

1. A documented independent safety analysis indicating that a specific non-intersecting CRO configuration meets FAA safety criteria.

2. Runway configurations for which these provisions are applied must be specified in a facility directive.

**NOTE-**

The above provisions will only be considered after review of a facility Safety Risk Management Document (SRMD).

### **10-3-16. EQUIVALENT LATERAL SPACING OPERATIONS (ELSO)**

At locations conducting 10 degree course divergence for simultaneous or successive RNAV departures on the same runway or parallel runways that are separated by 2,500 feet or more, air traffic managers must complete the following:

a. Create radar video map overlays that depict the initial departure tracks from each affected runway end.

b. Develop and administer initial controller training for ELSO. Annual proficiency training on local ELSO procedures are required.

c. Include in the facility Standard Operating Procedures or a Letter of Agreement with a satellite tower, that the OM/OS/CIC assess the feasibility of continuing ELSO when wind conditions dictate that aircraft cannot

consistently fly the intended RNAV track. This is due to the detrimental effects of a strong cross wind component affecting initial departure tracks.

**d.** Equipment required to maintain communication, navigation, and surveillance systems is operational with the glide slope exception as noted below.

**e.** During glide slope outages, facilities may continue to conduct simultaneous independent approaches without vertical guidance for a period of no more than 29 days, provided the following requirements are identified in an Air Traffic Safety Oversight Service (AOV) approved contingency plan. Submit glide slope outage contingency plans for approval to the Director, Operational Policy and Implementation, AJT-2 for processing. At a minimum, the following special provisions, conditions, and limitations must be identified in the plan, if applicable, along with any other facility-specific requirements:

**1.** An LOA with the ATCT (or facility directive for a combined facility) must contain a description of the procedures, requirements, and any limitations as specified in the facility contingency plan for glide slope out of service procedures.

**2.** The ATC facility must notify Technical Operations personnel of the glide slope outage.

**REFERENCE-**

*FAA Order JO 7210.3, Para 3-5-2, System Component Malfunctions.*

**3.** The ATC facility must notify arriving pilots that the glide slope is out of service. This can be accomplished via the ATIS broadcast.

**4.** Any other requirements specified in the local facility contingency plan for glide slope out procedures must be complied with before conducting simultaneous independent approach procedures.

**5.** Controllers must be trained and provided annual refresher training concerning the application of these procedures.

**6.** The ATC facility must record when the glide slope outage occurs and any adverse impact on the operation on FAA Form 7230-4, Daily Record of Facility Operation.

**7.** Any loss of separation or break out associated with operations under a contingency plan for glide slope out must be reported to the Director, Operational Policy and Implementation, AJT-2.

**8.** The facility must have radar coverage down to the decision altitude or minimum descent altitude, as applicable.

**9.** Approaches must be terminated to the runway without a glide slope whenever the reported visibility is below the straight-in localizer minimum for that runway.

**10.** Any required equipment for the approach with the glide slope out of service must be operational, such as DME or VORTAC.

**f.** Simultaneous approaches with the glide slope unusable must be discontinued after 29 days unless granted a Letter of Authorization by AOV. (See Appendix 4.)

**g.** When simultaneous approaches are being conducted, the pilot is expected to inform approach control, prior to departing an outer fix, if the aircraft does not have the appropriate airborne equipment or they do not choose to conduct a simultaneous approach. Provide individual handling to such aircraft.

**h.** Prior to implementing Established on RNP (EoR) operations to parallel runways with centerline spacing 9,000 feet or less (9,200 feet or less at field locations above 5,000 MSL), air traffic managers must:

**1.** Document all approach and/or transition pairings to be used during EoR operations. Document any existing approach and/or transition that requires application of incorrect flight procedure track separation (see FAA Order 8260.3, Chapter 16).

**2.** Ensure approved EoR approach pairings comply with the EoR procedure criteria identified in FAA Order 8260.3, Chapter 16.

**3.** Obtain authorization from the Service Area Director of Air Traffic Operations for the approved instrument approach pairings.

4. Ensure facility directives/letters of agreement list the authorized approach pairs and address the integration of EoR operations with straight-in operations to the same or parallel runway/s. Facility directives/letters of agreement must address, at a minimum, breakout procedures, monitoring, and training requirements.

**REFERENCE-**

FAA Order JO 7110.65, Para 5-9-7, *Simultaneous Independent Approaches-Dual & Triple*.  
P/CG Term - Established on RNP Concept.

### **10-4-7. SIMULTANEOUS WIDELY- SPACED PARALLEL OPERATIONS**

a. Simultaneous independent approaches to widely-spaced parallel runways without final monitors may be conducted when:

1. Instrument approach procedures are annotated with "Simultaneous Approach Authorized."

2. A separate approach system is required for each parallel runway. A minimum distance of more than 9,000 feet between centerlines is required when approaches are conducted at airports with field elevations at or below 5,000 feet MSL, or 9,200 feet between runway centerlines is required with a field elevation above 5,000 feet MSL. Other integral parts of the total Simultaneous Approach System include radar, communications, ATC procedures, and appropriate airborne equipment.

3. Weather activity is closely monitored that could impact the final approach course. Weather conditions in the vicinity of either final approach course may dictate a change of the approach in use.

4. All turn-ons and final approaches are monitored by radar. Since the primary responsibility for navigation rests with the pilot, instructions from the controller are limited to those necessary to ensure separation between aircraft. Information and instructions are issued as necessary to contain the aircraft on the final approach course. Aircraft which are observed deviating from the assigned final approach course are instructed to alter course left or right, as appropriate, to return to the desired course. Unless altitude separation is assured between aircraft, immediate action must be taken by the controller monitoring the adjacent parallel approach course to require the aircraft in potential conflict to alter its flight path to avoid the deviating aircraft.

5. Missed approach procedures are established with climbs on diverging courses. To reduce the possibility of error, the missed approach procedure for a single runway operation should be revised, as necessary, to be identical with that of a simultaneous approach operation.

6. Separate radar and local control positions are established for each final approach course.

b. Record the time the operation begins and ends on the facility log.

c. Where possible, establish standard breakout procedures for each simultaneous operation. If traffic patterns and airspace permit, the standard breakout altitude should be the same as the missed approach altitude.

d. Provide individual handling to an aircraft when the crew informs you that the aircraft does not have the appropriate airborne equipment or they choose not to conduct a simultaneous approach.

e. Facility ATMs must ensure approach pairings, when conducted under the EoR concept, are identified in a Facility Directive and a Letter of Agreement (LOA), if applicable.

**REFERENCE-**

FAA Order JO 7110.65, Para 5-9-10, *Simultaneous Independent Approaches to Widely-Spaced Parallel Runways Without Final Monitors*.  
P/CG-Term Established on RNP Concept.

### **10-4-8. SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES**

a. The procedures to conduct Simultaneous Converging Instrument Approaches (SCIA) must be developed in accordance with the following paragraphs.

1. The ATM must:

(a) Determine that the volume and complexity of aircraft operations requires the use of simultaneous converging instrument approaches. Additionally, no adverse impact on the users or air traffic control facilities can result from the implementation of the procedure.

(b) Coordinate with airport operations to ensure that runway intersection identification markings are in accordance with appropriate standards if the runways intersect.

(c) Coordinate with the responsible Service Area Flight Procedures Team (FPT) through the service area Operations Support Group (OSG) for the feasibility of SCIA procedural design and the ability to achieve minimums sufficient to justify procedural development. The FPT must consider all aspects of the approach, including NAVAIDS, approach lighting, and airport lighting.

(d) Prepare a staff study which includes:

(1) Type of aircraft and user groups that will be involved in SCIA operations.

(2) Anticipated effect on airport/ airspace capacity, including projected reductions in departure delays, airport arrival rate and projected savings in aircraft fuel consumption.

(3) Daily time periods during which the procedure would be applied.

(4) A preliminary environmental assessment in accordance with FAA Order 1050.1, Environmental Impacts: Policies and Procedures (see paragraph 4-1-6, Preliminary Environmental Review).

2. After completing steps 1 through 4 above, the ATM must:

(a) Submit the request for SCIA operations, to include the completed staff study and a draft graphic of the ILS/GLS or other Approach with Vertical Guidance (APV), to their OSG for review.

(1) The OSG must coordinate the procedure with the regional Flight Standards Division.

(2) When approved, the OSG will process the package through the FPT for development.

(b) Develop a Letter to Airmen defining local procedures to be used at least 30 days before the effective date. Additional means of publicizing local procedures must be employed in accordance with paragraph 4-2-4, Coordination of ATC Procedures.

b. The requirements for conducting SCIA operations to converging runways are:

1. Operational air traffic control radar.

2. Precision Approaches and/or Approach with Vertical Guidance (APV) must be established on each runway. The authorized approach types are: ILS, GLS, RNAV (GPS) with LPV and/or LNAV/VNAV minimums, or RNAV (RNP).

3. Non intersecting final approach courses.

4. SIAP specifically titled "Converging" and is published in parenthesis after the title of the procedure, for example, ILS V Rwy 17 (Converging).

(a) Missed approach points (MAP) must be at least 3 nautical miles (NM) apart, and

(b) Published missed approach procedures diverge by at least 45 degrees.

(c) The ATM must designate a primary and secondary runway for SCIA runway configurations including separation responsibility and procedures to be applied in the event a missed approach is initiated inside the MAP.

(d) Flight Procedures will determine the appropriate approach minimums for both primary and secondary runways for each SCIA configuration.

5. Converging approaches must not be conducted simultaneously to runways that intersect, when the ceiling is less than 1,000 feet or the visibility is less than 3 miles.

6. Converging approaches to runways that do not intersect may be conducted when the ceiling is less than 1,000 feet or visibility less than 3 miles provided all other conditions of this directive are met.

7. Application of this procedure to intersecting runways does not relieve the controller of the responsibility to provide intersecting runways separation as required in FAA Order JO 7110.65, paragraph 3-10-4.

8. A facility directive or letter of agreement must be developed specifying as a minimum:

- (a) The runway configurations to be used during SCIA operations,
- (b) Separation responsibility and procedures, to be applied, in the event a missed approach is initiated inside the MAP,
- (c) Coordination requirements,
- (d) Weather minima applicable to each configuration, if different from published minima.

**NOTE—**

*The ATM may establish higher minima than published on the SIAP to preclude, to the extent feasible, the possibility of a weather related missed approach.*

c. Authorize simultaneous instrument approaches to converging runways under the following conditions:

- 1. Only straight-in approaches must be made.
- 2. All appropriate communication, navigation, and surveillance systems are operating normally.
- 3. Aircraft must be informed on initial contact, or as soon as possible, that simultaneous converging approaches are in use. Broadcasting this information on the ATIS satisfies this requirement.
- 4. Weather activity that could impact the final approach courses must be closely monitored. Discontinue SCIA operations if weather trends indicate deteriorating conditions which would make a missed approach likely.

d. Record any occurrence of simultaneous missed approaches while conducting SCIA on FAA Form 7230-4, Daily Record of Facility Operation and submit a mandatory occurrence report (MOR).

#### **10-4-9. SIMULTANEOUS OFFSET INSTRUMENT APPROACHES**

a. Simultaneous Offset Instrument Approaches (SOIA) may be conducted at airports with dual parallel runways with centerlines separated by at least 750 feet and less than 3,000 feet, with one straight-in Instrument Landing System (ILS) and one Localizer Directional Aid (LDA), offset by 2.5 to 3.0 degrees in accordance with the provisions of an authorization issued by the Director, Operational Policy and Implementation, AJT-2 in coordination with AFS. A color digital display set to a 4 to 1 (4:1) aspect ratio (AR) with visual and aural alerts, such as STARS final monitor aid (FMA) is required.

b. Notification procedures for pilots unable to accept an ILS PRM or LDA PRM approach clearance can be found on the Attention All Users Page (AAUP) of the Standard Instrument Approach Procedures (SIAP) for the specific airport PRM approach.

c. Closely monitor weather activity that could impact the final approach course. Weather conditions in the vicinity of either final approach course may dictate a change of the approach in use. (See paragraph 10-1-6, Selecting Active Runways, subparagraph b Note.)

d. All turn-ons and final approaches are monitored by radar. Since the primary responsibility for navigation rests with the pilot, instructions from the controller are limited to those necessary to ensure separation between aircraft and to prevent aircraft from penetrating the NTZ. Information and instructions are issued, as necessary, to contain the aircraft's flight path within the Normal Operating Zone (NOZ). Aircraft which are observed approaching the No Transgression Zone (NTZ) are instructed to alter course left or right, as appropriate, to return to the desired course. Unless altitude separation is assured between aircraft, immediate action must be taken by the controller monitoring the adjacent parallel approach course to require the aircraft in potential conflict to alter its flight path to avoid the deviating aircraft.

e. Missed approach procedures are established with climbs on diverging courses. To reduce the possibility of error, the missed approach procedure for a single runway operation should be revised, as necessary, to be identical with that of the SOIA operation.



f. Where possible, establish standard breakout procedures for each simultaneous operation. If traffic patterns and airspace permit, the standard breakout altitude should be the same as the missed approach altitude.

g. The following requirements must be met for conducting SOIA:

1. All PRM, FMA, ILS, LDA with glideslope, distance measuring equipment, and communications frequencies must be fully operational.

2. The common NOZ and NTZ lines between the final approach course centerlines must be depicted on the radar video map. The NTZ must be 2,000 feet wide and centered an equal distance from the final approach centerlines. The remaining spaces between the final approach courses are the NOZs associated with each course.

3. Establish monitor positions for each final approach course that have override transmit and receive capability on the appropriate control tower frequencies. A check of the override capability at each monitor position must be completed before monitoring begins. Monitor displays must be located in such proximity to permit direct verbal coordination between monitor controllers. A single display may be used for two monitor positions.

4. Facility directives must define the position responsible for providing the minimum applicable longitudinal separation between aircraft on the same final approach course.

h. Dual local control positions, while not mandatory, are desirable.

i. Where possible, establish standard breakout procedures for each simultaneous operation. If traffic patterns and airspace permit, the standard breakout altitude should be the same as the missed approach altitude.

j. Wake turbulence requirements between aircraft on adjacent final approach courses inside the LDA MAP are as follows (standard in-trail wake separation must be applied between aircraft on the same approach course):

1. When runways are at least 2,500 feet apart, there are no wake turbulence requirements between aircraft on adjacent final approach courses.

2. For runways less than 2,500 feet apart, whenever the ceiling is greater than or equal to 500 feet above the MVA, wake vortex spacing between aircraft on adjacent final approach courses need not be applied.

3. For runways less than 2,500 feet apart, whenever the ceiling is less than 500 feet above the MVA, wake vortex spacing between aircraft on adjacent final approach courses, as described in FAA Order JO 7110.65, Air Traffic Control, paragraph 5-5-4, Minima, must be applied unless acceptable mitigating techniques and operational procedures are approved by the Director, Operational Policy and Implementation, AJT-2 pursuant to an AFS safety assessment. A request for a safety assessment must be submitted to the Director, Operational Policy and Implementation, AJT-2 through the Service Area Director of Air Traffic Operations. The wake turbulence mitigation techniques employed will be based on each airport's specific runway geometry and meteorological conditions and implemented through local facility directives.

4. All applicable wake turbulence advisories must be issued.

k. A local implementation team must be established at each facility conducting SOIA. The team should be comprised of representatives from the local airport sponsor and other aviation organizations. The team will monitor local operational integrity issues and report/refer issues for national consideration as appropriate.

l. For any new proposal to conduct SOIA, an operational need must be identified by the ATC facility manager, validated by the appropriate Service Area Director of Air Traffic Operations, and forwarded to the Director, Operational Policy and Implementation, AJT-2 for appropriate action. The statement of operational need should identify any required site-specific procedures.

#### **10-4-10. REDUCED SEPARATION ON FINAL**

Separation between aircraft may be reduced to 2.5 NM in-trail separation on the final approach course within 10 NM of the runway provided an average Runway Occupancy Time (ROT) of 50 seconds or less is documented

for each runway. ROT is the length of time required for an arriving aircraft to proceed from over the runway threshold to a point clear of the runway. The average ROT is calculated by using the average of the ROT of no less than 250 arrivals. The 250 arrivals need not be consecutive but must contain a representative sample of the types of aircraft that use the runway. Average ROT documentation must be revalidated within 30 days if there is a significant change in runway/taxiway configuration, fleet mix, or other factors that may increase ROT. Revalidation need not be done for situations that are temporary in nature. Only the ROT for the affected runway(s) will need to be revalidated. All validation and revalidation documentation must be retained and contain the following information for each arrival:

- a. Aircraft call sign.
- b. Aircraft type.
- c. Time across the threshold.
- d. Time clear of the runway.
- e. Items c and d above may be omitted if using a stopwatch. Record the total number of seconds required for an aircraft to proceed from over the landing threshold to a point clear of the runway when using a stopwatch.

**REFERENCE-**

FAA Order JO 7110.65, Para 5-5-4, Minima, Subpara j.

#### **10-4-11. MINIMUM IFR ALTITUDES (MIA)**

At terminal facilities that require minimum IFR altitude (MIA) charts, determine MIA information for each control sector and display them at the sector. This must include off-airway minimum IFR altitude information to assist controllers in applying 14 CFR Section 91.177 for off-airway vectors and direct route operations. Facility air traffic managers must determine the appropriate chart/map method for displaying this information at the sector. Forward charts and chart data records to the appropriate Service Center Operations Support Group for certification and annual review.

**NOTE-**

1. For guidance in the preparation and review of Minimum IFR Altitude charts see FAA Order JO 7210.37, En Route Instrument Flight Rules (IFR) Minimum IFR Altitude (MIA) Sector Charts.
2. This may be accomplished by appending the data on sector charts or MVA charts; Special translucent sectional charts are also available. For assistance in obtaining MIA sector charts contact the Radar Video Map group at 9-AJV-HQ-ATCPRODUCTS@faa.gov.

# Chapter 12. National Programs

## Section 1. Terminal VFR Radar Services

### 12-1-1. PROGRAM INTENT

Basic Radar Service, TRSA Service, Class B and Class C services are the four types of Radar Services designed to enhance safety by providing air traffic services to VFR aircraft. The services were designed to provide the maximum level of radar services possible with existing equipment. Additional resources (displays, communications, telco, space, etc.) must be justified by requirements other than the volume of radar service provided to VFR aircraft. Pilots should be encouraged to participate by all available methods. This is best accomplished through effective procedures and a clear understanding of the Terminal VFR Radar Services available.

#### *REFERENCE-*

*P/CG Term – Terminal VFR Radar Services.*

*FAA Order JO 7110.65, Chapter 7, Section 6, Basic Radar Service to VFR Aircraft– Terminal.*

### 12-1-2. IMPLEMENTATION

**a.** Facilities unable to meet the following requirements must submit justification to the respective Terminal Operations Area Office:

**1.** Newly commissioned terminal radar facilities must implement basic radar services to VFR aircraft, as prescribed in FAA Order JO 7110.65, Air Traffic Control, paragraph 7-6-1, Application, within 30 to 60 days after full IFR service is available. All radar facilities must provide basic radar service at primary airports and, where operationally feasible, at satellite airports with a control tower.

**2.** TRSA Service: In addition to basic radar service, provide separation between all participating aircraft operating in an established TRSA. If a need exists, facilities may develop coded VFR departure routes for TRSA service. When such routes are established, the following provisions apply:

**(a)** Prior to implementing coded VFR departure routes, the facility must coordinate with local user groups.

**(b)** A letter to airmen must be issued advising pilots of the procedure.

**(c)** These routes must only be issued to local users familiar with the procedure.

**(d)** Detailed departure instructions must be furnished when requested by the pilot.

**3.** Facility air traffic managers must address in writing, as a minimum, the following pertinent factors when submitting for service area office approval, either a recommendation for revision or withdrawal of an existing TRSA.

**(a)** Safety record/NMAC analysis.

**(b)** Airspace and operational efficiency.

**(c)** Unique geographical features.

**(d)** Hourly air carrier traffic density.

**(e)** User input. (User meetings, while highly desirable, are not required for withdrawals.)

**b.** Revisions to TRSAs must be submitted to System Operations Airspace and Aeronautical Information Services (AIS) at least 9 weeks prior to one of the appropriate publication dates; i.e., Sectional Charts, Notice to Air Missions, or the Chart Supplement. The following are considered sufficient justification to warrant revision:

1. Changes in configuration, frequencies, or primary airport status (name, elevation, closed, abandoned, etc.).
  2. Additions or deletions to the VFR checkpoints/NAVAIDs.
  3. Typographical errors.
- c. Advertising Basic Radar Services:
1. A sufficient number of user group meetings must be held to publicize implementation of basic radar services to as many local pilots as practicable.
  2. Disseminate a letter to airmen explaining the program and including a drawing of the basic radar service area. The drawing should be on a cutout from the appropriate sectional chart and should show the following:
    - (a) Lateral and vertical dimensions.
    - (b) Frequency for each sector.
    - (c) Initial VFR checkpoints indicated by flags.
  3. The facility air traffic manager must seek the cooperation of the FSDO in informing aviation interests about their responsibilities while operating in a basic radar service environment. Special emphasis should be placed on such points as:
    - (a) Pilot participation is urged, but it is not mandatory.
    - (b) Pilots should be aware that aircraft sequencing and traffic advisories are primarily based on aircraft maintaining assigned headings and altitudes.
    - (c) If a pilot cannot abide with an ATC instruction or clearance, he/she should notify ATC immediately.
  4. Follow-up meetings (“HOW GOES IT” type) must be conducted.

### 12-1-3. TRSA

a. TRSAs are not officially designated by airspace action and were established solely to define an area within which a separation service will be provided. Therefore, at all TRSA locations it is intended that facilities must provide the full extent of TRSA services throughout the entire advertised TRSA area. Although the TRSA area extends downward to the surface within the surface area of Class D airspace at the primary airport, a base should be established outside this surface area of Class D airspace to permit free movement of nonparticipating aircraft. The base of the TRSA must not be below the base of an associated Class E airspace.

b. The size and shape (laterally/vertically) of the TRSA will vary depending upon operational requirements. However, each TRSA must reflect the most efficient and reasonable configuration to contain large turbine-powered aircraft while achieving a higher level of overall safety.

**NOTE-**

*There is no requirement for the TRSA facility to retain operational jurisdiction of the airspace in its entirety if another facility can more effectively manage a particular portion of the airspace. The requirement is that the system provides the required service.*

c. All IFR procedures used by large turbine-powered aircraft arriving and departing designated airports must be fully contained in the TRSA. Each TRSA should be configured to ensure the most efficient use of airspace.

d. Arriving and departing large turbine-powered aircraft should enter/exit the TRSA through the ceiling. However, arriving aircraft at altitudes below the ceiling are not required to climb to achieve this objective, nor are departing aircraft filed at lower altitudes.

### 12-1-4. CLASS C AIRSPACE

Class C airspace must be officially designated by airspace action in 14 CFR Part 71 and is established solely to define the airspace in which all aircraft are subject to operating rules and equipment requirements specified in 14 CFR Part 91.

## Part 4. FLIGHT SERVICE STATIONS

### Chapter 14. Flight Service Operations and Services

#### Section 1. General

##### 14-1-1. OPERATING POSITION DESIGNATORS

- a. The following designators may be used to identify operating positions in an FSS. (See TBL 14-1-1.)

*TBL 14-1-1*  
**Operating Position Designators**

	<b>Designator</b>	<b>Position</b>
1.	FD	Flight Data
2.	IF	Inflight
3.	N	NOTAM
4.	OM	Operations Manager
5.	OS	Operations Supervisor*
6.	PF	Preflight
7.	WO	Weather Observer

\*The Operations Supervisor (OS) position may be staffed by an Operations Supervisor, a Controller-in-Charge (FAA) or Designated Lead Specialist (FCFSS).

- b. Facility managers may use designators other than those listed to accommodate local situations.

##### 14-1-2. TEMPORARY FSS

a. Employ temporary FSSs to assure that the aviation public is afforded adequate services. Temporary facilities may be established when requested by flying organizations, cities, and other political subdivisions to assist in the operation of fly-ins, air races, etc.

b. Each request for a detail of FAA personnel and/or equipment should be carefully considered with regard to the actual need for the service. When it is determined that the service is required and that the required personnel/equipment can be made available without jeopardizing FAA activities, Flight Services Operations Service Area Offices should accede to the request.

##### 14-1-3. FLIGHT PLAN AREA

The Chart Supplement lists each public-use airport and its associated FSS. As changes occur, determine the flight plan area assignments as follows:

a. The Flight Service Safety and Operations Group must assign a new airport to the nearest FSS regardless of regional boundaries. This criterion must also be used as the determining factor for establishing flight plan areas or airport reassignments associated with FSS commissioning, decommissioning, or functional changes.

b. Make adjustments to the flight plan area assignment through interfacility coordination with Flight Services Safety and Operations Group approval.

c. Where databases are shared, facility managers may develop local procedures to facilitate the handling of flight data across flight plan area boundaries.

**EXAMPLE-**

*An aircraft departs Dillingham but activates a VFR flight plan with Kenai Radio. Since both facilities share a database, Kenai may activate the flight plan, providing local procedures have been developed.*

**14-1-4. ICSS INTRODUCTORY ANNOUNCEMENT**

**a.** FSS facilities using ICSS equipment must provide an introductory announcement to alert pilots they are accessing the ICSS system.

**EXAMPLE-**

*WELCOME TO THE (facility name) FLIGHT SERVICE STATION. FOR FLIGHTS OUTSIDE OF UNITED STATES CONTROLLED AIRSPACE, CHECK DATA AS SOON AS PRACTICAL AFTER ENTERING FOREIGN AIRSPACE, AS OUR INTERNATIONAL DATA MAY BE INACCURATE OR INCOMPLETE. ADVISE THE BRIEFER YOU HAVE THE INTERNATIONAL CAUTIONARY ADVISORY. TOUCH-TONE USERS MAY PRESS (appropriate code) FOR A BRIEFER OR (appropriate code) FOR THE MAIN MENU OF SERVICES. IF YOU ARE USING A PULSE OR ROTARY TELEPHONE, PLEASE REMAIN ON THE LINE AND YOUR CALL WILL BE SEQUENCED FOR THE NEXT AVAILABLE BRIEFER.*

**b.** Newly commissioned facilities may expand the introductory announcement to include additional access instructions until users become familiar with the system– for a period not to exceed 6 months from the date of system commissioning.

**c.** With Flight Service Safety and Operations Group approval, facilities may add additional menu instruction for special purpose requirements, for example, coastal routes.

# Chapter 15. Aviation Meteorological Services and Equipment

## Section 1. General

### 15-1-1. FAA-NWS AGREEMENT

By interagency agreement, FAA and NWS cooperate in providing aviation meteorological services to the aviation public. This cooperation is designed to provide maximum service within the combined capabilities of the two agencies.

### 15-1-2. CERTIFICATES OF AUTHORITY

a. FSS personnel must obtain a certificate of authority from the FAA before performing the following functions:

1. Weather observing.
2. Pilot weather briefing.

**REFERENCE-**

*FAA Order JO 7220.4, FAA Certification of Pilot Weather Briefing.*

### 15-1-3. LIAISON WITH AVIATION INTERESTS

a. Because of their aviation service responsibilities, FSS supervisors should establish and maintain cordial relations with aviation interests within their flight plan areas. They should keep apprised of aviation users' weather and aeronautical information needs and assist them in making effective use of the available services. This liaison should include other FAA facilities, NWS facilities, airport management, airline and military operations offices, fixed base operators, pilot organizations, and Civil Air Patrol (CAP).

b. Some aviation operations (e.g., emergency medical flights) require time critical services. Immediate dispatch of the mission is imperative and delays in obtaining required weather and aeronautical information may be life endangering. FSS managers must cooperate to the fullest extent possible with organizations making requests for special arrangements to satisfy their requirement.

### 15-1-4. TELEPHONE LISTINGS

FSS air traffic managers must ensure that appropriate telephone numbers are properly listed in telephone directories (including yellow pages when applicable) and in the Chart Supplement. In Alaska, include Fast File in local directories where that service is available. Numbers should always be listed under the subheading Flight Service Station under United States Government, Department of Transportation, Federal Aviation Administration. When possible, list the primary pilot weather briefing number under the Frequently Requested Numbers section at the beginning of United States Government listings.

**EXAMPLE-**

United States Government  
 Department of Transportation  
 Federal Aviation Administration  
 Flight Service Station  
 (Address)  
 Pilot Weather Briefing <sup>1</sup>  
 Fast File Flight Plan  
 Facility Supervisor <sup>2</sup>

/1/ Parent FSS number for part-time FSSs.

/2/ Administrative number.

### **15-1-5. MINIMUM WEATHER EQUIPMENT**

FSSs taking basic weather observations must have:

- a. A ceilometer (balloons and ceiling lights are acceptable until replaced).
- b. A hygrothermometer and a sling psychrometer for use in the event the hygrothermometer is inoperative.
- c. A wind direction and speed system. (A gust recorder, if required, will be furnished by NWS.)
- d. A standard 8-inch rain gauge (furnished by NWS if the station reports precipitation).
- e. An altimeter setting indicator and a traceable pressure standard. (A barograph, if required, will be furnished by NWS.)

### **15-1-6. SUPPLY-SUPPORT**

Equipment used exclusively for aviation observations will be procured, installed, operated, maintained, and supply-supported by FAA. Observational equipment; e.g., AWOS/ASOS systems, Stand Alone Weather Sensors (SAWS), etc., serving multiple NWS/FAA purposes will be procured, installed, maintained, and supply-supported by NWS unless otherwise agreed to. To the maximum extent possible, each agency should avail itself of the facilities offered by the other in contracting for, installing, maintaining, and supply-supporting observational equipment on a non-reimbursable basis where appropriate.



## Section 2. Pilot Weather Briefing

### 15-2-1. BRIEFING RESPONSIBILITY

FSSs are responsible for providing weather briefings to users of aviation weather information calling in person, by radio, or telephone. These briefings are fulfilled by direct application or interpretation of NWS guidance forecasts supplemented by the latest observations and pilot reports.

### 15-2-2. WEATHER CHART DISPLAY

Some of the more useful weather charts for pilot weather briefings are: surface and upper air analysis, freezing level analysis, stability index analysis, radar depiction, weather depiction, surface and upper air prognosis, significant weather (high and low level) prognosis, and maximum wind and wind shear analysis and prognosis. Weather chart displays should include but not necessarily be limited to these charts.

### 15-2-3. TELEVISION EQUIPMENT

Closed circuit television equipment (CCTV) is available in a number of high-activity FSSs. Facilities should use the equipment to display weather graphic information. Facilities that have additional television cameras available, after graphics requirements are met, may display alphanumeric data.

### 15-2-4. FLIGHT PLANNING DISPLAY

Maintain flight planning displays in FSSs and other locations, as appropriate, convenient for pilot use. Such displays include:

- a. Aeronautical charts covering the flight plan area that depict military training routes.
- b. A planning chart with a means for measuring distances and plotting courses.
- c. Chart Supplement, NOTAM publication, and Aeronautical Information Manual.
- d. Army Aviation Flight Information Bulletin.
- e. DoD IFR En Route Supplement and DoD VFR Supplement.

#### REFERENCE-

FAA Order JO 7210.3, Para 15-2-6, Military Training Activity.

- f. Drawing of the local airport.
- g. Sunrise and sunset tables.
- h. Aero computer.
- i. Pilot chart working area.

### 15-2-5. FLIGHT PLANNING FORMS

FSS facility managers must assure FAA Form 7233-4, International Flight Plan, and/or Form 7233-1, Flight Plan, as needed, are available in the pilot briefing area for use by pilots. Maintain a sufficient supply to provide additional copies, as needed, to pilots, aviation companies, and organizations on request.

### 15-2-6. MILITARY TRAINING ACTIVITY

Ensure that the current DoD General Planning (GP), DoD Flight Information Publication (FLIP), Special Use Airspace (AP/1A), Military Training Route (AP/1B), and associated charts are readily available for preflight briefings to pilots:

- a. Post the DoD FLIP chart, or that portion covering at least the flight plan area plus a 100 NM extension of the FSSs existing flight plan area.
- b. Publicize new or revised MTRs and MOAs through letters to airmen, pilot meetings, and where practicable, “handouts” charting the routes/areas within the FSS flight plan area and the 100 NM extension of the existing flight plan area.

#### **15-2-7. TRANSFER OF BRIEFERS**

- a. A pilot weather briefer transferring from one briefing assignment to another or returning to a pilot weather briefing position after a break of 3 months to 1 year in the performance of briefing duties is required to obtain a reorientation check before performing pilot weather briefing duties.
- b. A pilot weather briefer returning to briefing duties after an absence of more than 1 year from briefing duties is required to be re-qualified by means of an oral examination by the FAA.

## Section 7. Traffic Management Initiatives

### 18-7-1. GENERAL

Traffic Management Initiatives (TMIs) are techniques used to manage demand with capacity in the NAS.

a. Properly coordinated and implemented TMIs are an important tool in the air traffic system. These initiatives contribute to the safe and orderly movement of air traffic.

b. Any TMI creates an impact on customers. It is imperative to consider this impact and implement only those initiatives necessary to maintain system integrity.

### 18-7-2. BACKGROUND

TM personnel utilize a variety of tools and NAS performance information to implement TMIs that are carried out by air traffic controllers and flight operators to ensure a safe and efficient operation.

*NOTE-*

*TMIs do not include controller coordinated actions. See FAA Order JO 7110.65, subparagraph 5-4-5e. Comply with restrictions issued by the receiving controller unless otherwise coordinated.*

### 18-7-3. POLICY

To maintain the integrity of the air traffic system, facility TM personnel must employ the least restrictive methods available to minimize delays.

### 18-7-4. TYPES OF TMIs

a. Altitude: used to separate different flows of traffic or flights flying in close proximity to each other.

1. Tunneling- Term to indicate aircraft will be descended prior to the normal descent point to avoid airspace or traffic constraints.

2. Capping- Term to indicate aircraft will be cleared to an altitude lower than their requested altitude until they are clear of a particular airspace. Capping may apply to the initial segment of the flight or for the entire flight.

3. Low Altitude Arrival/Departure Routing (LAADR). A set of routings with altitude expectations for usage in times of capacity constraints in the NAS. LAADR may apply to the departure or the arrival phase of flight. LAADR requires a written agreement with the customers prior to implementing.

b. Miles-in-trail (MIT). The number of miles required between aircraft that meet specific criteria. The criteria may be airport, fix, altitude, sector, or route specific. MIT are used to apportion traffic into manageable flows, as well as, provide space for additional traffic (merging or departing) to enter the flow of traffic.

c. Minutes-in-trail (MINIT). The number of minutes required between successive aircraft. It is normally used in a nonradar environment, or when transitioning to a nonradar environment, or additional spacing is required due to aircraft deviating around weather.

d. Fix balancing. Assigning an aircraft a fix other than in the filed flight plan in the arrival or departure phase of flight to equitably distribute demand.

e. Airborne holding. Planned holding of aircraft may be utilized. This is normally done when the operating environment supports holding and the weather conditions are expected to improve shortly; this ensures aircraft are available to fill the capacity at the airport.

f. Departure Sequencing Program (DSP)- Assigns a departure time to achieve a constant flow of traffic over a common point. Normally, this involves departures from multiple airports.

**g. TFMS Programs.**

1. Ground delay programs. (See Chapter 18, Section 10, Ground Delay Programs.)
2. Airspace flow programs. (See Chapter 18, Section 11, Airspace Flow Programs (AFP).)
3. Collaborative trajectory options program (CTOP). (See Chapter 18, Section 12, Collaborative Trajectory Options Program (CTOP).)

**h. Reroutes:**

1. Reroutes are ATC routings other than the filed flight plan. They are issued to:
  - (a) Ensure aircraft operate with the “flow” of traffic.
  - (b) Remain clear of special use airspace.
  - (c) Avoid congested airspace.
  - (d) Avoid areas of known weather or where aircraft are deviating or refusing to fly.
2. Operators should amend flight plans when they are more than 45 minutes from departure.
3. Sources for route information:

- (a) Chart Supplement.
- (b) Preferential Route Information in facilities.
- (c) Route Management Tool.
- (d) North American Route Notice.
- (e) Federal Air Regulations.
- (f) Notices to Air Missions.
- (g) Advisories issued by ATCSCC. (These are listed on the Operational Information System.)

4. Pre-departure reroute (PDRR) is a capability within TFMS that enables ATC to quickly amend and execute revised departure clearances to mitigate en route constraints or balance en route traffic flows. This capability is especially beneficial during periods of severe weather when departure routes are rapidly opening and closing.

5. Airborne reroute (ABRR) is a capability within TFMS that is used for tactical reroutes for airborne aircraft. The ARTCC TMC uses TFMS route amendment dialog (RAD) to define a set of aircraft-specific reroutes that address a certain traffic flow problem and then electronically transmits them to ERAM for execution by the appropriate sector controllers.

6. Trajectory options set (TOS) – A message sent by participating flight operators to TFMS defining a prioritized group of options. These preferences are defined through a combination of routes and/or altitudes and/or speeds with each trajectory being weighted through the use of flight operator submitted preferences. (See Chapter 18, Section 12, Collaborative Trajectory Options Program (CTOP), and Pilot/Controller Glossary.)

7. More information on routes is contained in Chapter 18, Section 19, Coded Departure Routes, Section 20, Route Advisories, and Section 22, National Playbook.

- i. Ground Stops. (See Chapter 18, Section 13, Ground Stop(s).)

**18-7-5. EXCEPTION**

The above list is not all-inclusive and does not preclude the innovation and application of other procedures or traffic flow management strategies that will result in improved customer service.

**18-7-6. TMI DATA**

The efficiency of the NAS is enhanced when all participants have access to the same data. Utilization of shared technology, e.g., Flow Constrained Area (FCA)/Flow Evaluation Area (FEA) enhances the coordination process.

## Section 17. Preferred IFR Routes Program

### 18-17-1. GENERAL

a. This section identifies responsibilities and establishes procedures for the development, revision, and cancellation of Preferred IFR Routes. These routes, as published in the Chart Supplement, include Low Altitude, High Altitude, Tower En route Control (TEC), North American Routes (NAR), and both High and Low Single Direction Routes (HSD/LSD). The objective of Preferred IFR Routes is the expeditious movement of traffic during heavy demand periods and the reduction of TMIs and coordination.

b. Preferred IFR Routes must only be established when traffic density and/or safety make such routes necessary for the expeditious movement of air traffic.

c. Preferred IFR Routes must be developed in accordance with paragraph 18-17-3, Development Procedures.

### 18-17-2. RESPONSIBILITIES

a. ARTCCs are responsible for:

1. Developing, revising, and deleting Preferred IFR Routes. The originating ARTCC is responsible for coordinating with all affected facilities, ensuring the accuracy of the submitted route(s), examining routes for operational impact, and ensuring compatibility with NAS processing.

2. At a minimum, reviewing all Preferred IFR Routes annually and revising or canceling routes as necessary.

3. Identifying a single Office of Primary Responsibility (OPR) for their Preferred IFR Routes program. This office must be the focal point for coordination with affected FAA facilities and the ATCSCC.

b. The ATCSCC is responsible for:

1. Operating as the OPR at the National level

2. Reviewing and evaluating Preferred IFR Route submissions

3. Submitting approved Preferred IFR Routes to AIS for publication

4. Providing feedback on unapproved routes to the submitting OPR

c. The AIS must be responsible for:

1. Entering the route in the national database.

2. Forwarding errors noted during the validation to the ATCSCC for resolution.

3. Publishing the route as an add-on page to the National Flight Data Digest (NFDD).

### 18-17-3. DEVELOPMENT PROCEDURES

a. Routes and route segments must be defined by any combination of the following:

1. DPs/SIDs/STARs if applicable

2. NAVAID identifier, intersection name, fix name, RNAV Waypoint or Navigation Reference System Waypoints (NRS) (e.g., FUZ, ZEMMA, KK45G).

3. Type and number of the airway (e.g., J87 M201 Q40 T295 V16)

b. When establishing or amending Preferred IFR Routes the following rules must be applied:

1. When including a DP/SID/STAR use a published transition fix or the common fix for the procedure.

2. When describing an airway include a published entry and exit point (e.g., CVE J87 BILEE).
3. When connecting two airways, a published fix common to both airways and that is depicted on en route charts must be included (e.g., ADM J21 ACT J50). If there is not a fix common to both airways, include a published exit point for the first airway and a published entrance point for the second airway (e.g., OCS J206 NLSEN CYS J148).
  4. The first route element following the origin must not be an airway (e.g., KDFW J4).
  5. The last route element prior to the destination must not be an airway (e.g., J35 KMSY).
  6. Inclusive altitudes must be used when describing a Low Altitude Preferred IFR Route.
  7. Low frequency non-directional beacons must not be used.
- c. Other considerations should include:
  1. Terminal/en route traffic flows
  2. Radar coverage
  3. SAA/SUA
  4. Adapted Arrival (AARs), Adapted Departure (ADRs) and Adapted Departure and Arrival Routes (ADARs).
  5. MEA, MOCA, and Minimum Reception Altitude (MRA) must be considered when establishing inclusive altitudes for Low Altitude routes.
  6. When describing High Altitude preferred routes, victor airways may only be used to define climbing/descending segments, provided that such usage does not exceed the service limitations of the NAVAID.
  7. Single direction routes may be established in the high altitude stratum to enhance safety and expedite air traffic. The routes may begin or end at any fix within the en route structure and need not serve a specific terminal area. Single direction routes serving terminal/en route needs must be depicted on en route charts.

#### **18-17-4. COORDINATION PROCEDURES**

- a. Interfacility Coordination
  1. The originating ARTCC is defined as follows:
    - (a) New Routes: The ARTCC identifying the need to establish a new Preferred IFR Route.
    - (b) Existing Routes: The ARTCC identifying the need to amend or delete a Preferred IFR Route.
    - (c) When establishing, amending, or deleting a Preferred IFR Route is proposed by a facility other than an ARTCC, the requesting facility must coordinate with the parent ARTCC. The overlying ARTCC must assume responsibility as the originator.
  2. The originating ARTCC must:
    - (a) Coordinate with all affected ATC facilities.
    - (b) Upon completion of the coordination process, submit data to the ATCSCC Point of Contact (POC).
  3. The ATCSCC must:
    - (a) Resolve differences between ATC facilities.
    - (b) Review for accuracy and forward the completed data to the AIS for publication.

#### **18-17-5. PROCESSING AND PUBLICATION**

- a. The airspace information cutoff date listed in the Chart Supplement is the latest date route information may be received by AIS to ensure publication on the planned effective date. The following procedures must apply:

1. Plan effective dates to coincide with the Chart Supplement publication dates. ■
2. ARTCCs must submit completed data to the ATCSCC at least 21 days prior to the desired publication cutoff date. The data must be submitted via the AIS Preferred IFR Routes submission form. The ATCSCC will provide the OPR with this form.
3. The ATCSCC must forward the completed data to the AIS on or before the desired publication cutoff date.





## Section 4. Parachute Jump Operations

### 19-4-1. NONEMERGENCY PARACHUTE JUMP OPERATIONS

**a.** All concerned personnel must familiarize themselves with 14 CFR Part 105, and obtain the required information required by Section 105.25 when processing requests for authorization or notification of non-emergency parachute jumps.

**b.** When operational/procedural needs require or when warranted by high density air traffic or constrained airspace, negotiate letters of agreement that designate areas of ongoing jump activity as permanent jump sites. Letters of agreement should contain:

1. The description and the location of the jump zone(s) and the conditions of use.
2. The activity schedules.
3. The maximum jump altitudes, common jump altitudes and common parachute opening altitudes (all altitudes should be expressed in feet above mean seal level).
4. The communication frequencies to be used by the jump aircraft.
5. Jump aircraft call signs.
6. Jump aircraft climb and descent areas.
7. Notification procedures.
8. Assigned transponder code when appropriate.
9. Any other items pertinent to the needs of the ATC system and the users.

**c.** Where ongoing jump sites are established, but not yet published, ATMs may work with the parachute operator to ensure pertinent information is submitted for publication in the Chart Supplement and contact the Operations Support Group for assistance as needed.

**d.** To the extent possible, advise parachute jumping organizations or responsible individuals of known high traffic density areas or other airspace where sport parachuting may adversely impact system efficiency, such as IFR departure/arrival routes, Federal airways, VFR flyways, military training routes, etc.

**e.** A record of parachute jump coordination must be maintained by the facility for 45 days. The records must contain at least a copy of the NOTAM, reason(s) for cancellation (if applicable), name of the person(s) effecting coordination, and instructions or conditions imposed on the jump operation.



# Chapter 20. Temporary Flight Restrictions (TFRs)

## Section 1. General Information

### 20-1-1. PURPOSE

This section prescribes guidelines and procedures regarding the use and issuance of regulatory temporary flight restrictions (TFR).

### 20-1-2. AUTHORITY

a. The FAA Administrator has sole and exclusive authority over the navigable airspace of the United States. The Administrator has broad authority under Section 40103 of Title 49 of the United States Code (U.S.C.) to regulate, control, and develop plans and policy for the use of navigable airspace. See also 49 U.S.C. Section 40101(d).

b. Title 14 of the Code of Federal Regulations (14 CFR) part 91 contains regulations addressing temporary flight restrictions.

### 20-1-3. REASONS FOR ISSUING A TFR

While not all inclusive, a TFR may be issued for the following reasons: toxic gas leaks or spills, fumes from flammable agents which, if fanned by rotor or propeller wash, could endanger persons or property on the surface or in other aircraft; volcanic eruptions that could endanger airborne aircraft and occupants; hijacking incidents that may endanger persons or property on the surface, or airborne aircraft and occupants; aircraft accident/incident sites; aviation or ground resources engaged in wildfire suppression; aircraft relief activities following a disaster; aerial demonstrations or major sporting events.

### 20-1-4. TYPES OF TFRs

TFRs may be issued under the following regulations:

- a. Section 91.137, Temporary Flight Restrictions in the Vicinity of Disaster/Hazard Areas.
- b. Section 91.138, Temporary Flight Restrictions in National Disaster Areas in the State of Hawaii.
- c. Section 91.139, Emergency Air Traffic Rules.
- d. Section 91.141, Flight Restrictions in the Proximity of the Presidential and Other Parties.
- e. Section 91.143, Flight Limitation in the Proximity of Space Flight Operations.
- f. Section 91.145, Management of Aircraft Operations in the Vicinity of Aerial Demonstrations and Major Sporting Events.

**NOTE-**

See Chapter 21, Section 6, for information regarding Special Security Instructions issued under 14 CFR 99.7 Special Security Instructions.

### 20-1-5. TFR NOTAM CONTENT

TFR NOTAMs must comply with procedures detailed in FAA Order 7930.2, Notices to Air Missions (NOTAM).

### 20-1-6. TFR INFORMATION

National Airspace System (NAS) users or other interested parties should contact the nearest flight service station, or (in CONUS) the appropriate ARTCC for TFR information. Additionally, you can find TFR information on automated briefings and at any of the following sources:

- a. TFR List: <http://tfr.faa.gov/tfr2/list.html>
- b. TFR Graphical: [http://tfr.faa.gov/tfr\\_map\\_ims/html/index.html](http://tfr.faa.gov/tfr_map_ims/html/index.html)
- c. Domestic Notices: [https://www.faa.gov/air\\_traffic/publications/domesticnotices/](https://www.faa.gov/air_traffic/publications/domesticnotices/)
- d. International Notices: [https://www.faa.gov/air\\_traffic/publications/internationalnotices/](https://www.faa.gov/air_traffic/publications/internationalnotices/)
- e. FAA NOTAM Search: <https://notams.aim.faa.gov/notamSearch/>
- f. FCFSS website: <https://www.1800wxbrief.com/>

#### **20-1-7. TFRs OUTSIDE OF THE UNITED STATES AND ITS TERRITORIES**

TFRs are only implemented for sovereign U.S. airspace and its territories. If restrictions are located in an area that extends beyond the 12-mile coastal limit or a U.S. border, the NOTAM will contain language limiting the restriction to the airspace of the U.S., and its territories and possessions. The FAA may issue an advisory via the NOTAM System to inform affected users of any hazard or dangerous information outside of the sovereign U.S. airspace and its territories.

#### **20-1-8. TFR QUESTIONS**

Direct any questions or concerns regarding TFRs to the ATO Service Area Director (or designee) having jurisdiction over the TFR area. You may also contact Mission Support, Rules and Regulations Group, FAA Headquarters, Washington, D.C., at (202) 267-8783.

## Section 2. Temporary Flight Restrictions in the Vicinity of Disaster/Hazard Areas (14 CFR Section 91.137)

### 20-2-1. PURPOSE

This section prescribes guidelines and procedures regarding the management of aircraft operations in the vicinity of disaster/hazard areas in accordance with 14 CFR Section 91.137. TFRs issued under this section are for disaster/hazard situations that warrant regulatory measures to restrict flight operations for a specified amount of airspace, on a temporary basis, in order to provide protection of persons or property in the air or on the ground.

### 20-2-2. TFR CRITERIA

TFRs in accordance with 14 CFR Section 91.137 are issued when necessary to:

a. 14 CFR 91.137(a)(1) – Protect persons and property on the surface or in the air from an existing or imminent hazard associated with an incident on the surface when the presence of low-flying aircraft would magnify, alter, spread, or compound that hazard.

**EXAMPLE–**

*Toxic gas leaks or spills; flammable agents or fumes that, if fanned by rotor or propeller wash, could endanger persons or property on the surface or; if entered by an aircraft, could endanger persons or property in the air; volcanic eruptions that could endanger airborne aircraft and occupants; nuclear accident or incidents; hijackings; and certain law enforcement activities.*

b. 14 CFR 91.137(a)(2) – Provide a safe environment for the operation of disaster relief aircraft.

**EXAMPLE–**

*Aviation or ground resources engaged in wildfire suppression, and relief activities following a disaster (earthquake, tidal wave, flood, etc.).*

c. 14 CFR 91.137(a)(3) – Prevent an unsafe congestion of sightseeing and other aircraft above an incident or event that may generate a high degree of public interest.

**EXAMPLE–**

*Disaster/hazard incidents/events of limited duration that would attract an unsafe congestion of sightseeing aircraft, such as aircraft accident sites.*

**NOTE–**

*A 14 CFR Section 91.137(a)(3) TFR applies only to disaster/hazard incidents/events of limited duration that would attract an unsafe congestion of sightseeing aircraft. It is not to be used for other outdoor public events.*

### 20-2-3. REQUESTING AUTHORITIES

A TFR under 14 CFR Section 91.137 may be requested by various entities, including military commands; regional directors of the Office of Emergency Planning; Civil Defense State Directors; civil authorities directing or coordinating air operations associated with disaster relief; civil authorities directing or coordinating organized relief air operations (including representatives of the Office of Emergency Planning, U.S. Forest Service, and state aeronautical agencies); and law enforcement agencies.

### 20-2-4. ISSUING TFRs

a. The Director, System Operations Security (AJR-2), (or designee) or the ATO Service Area Director (or designee) having jurisdiction over the area concerned may issue a TFR.

b. The Director, System Operations Security (AJR-2), (or designee) or the ATO Service Area Director (or designee) with jurisdiction over the area concerned may issue TFRs in accordance with 14 CFR Section

91.137(a)(1) for law enforcement incidents posing direct hazards. These TFRs must be approved in advance by the ATO Director of System Operations Security (or designee) and operationally coordinated with the System Operations Support Center (SOSC) at (202) 267-8276.

**NOTE-**

1. Law enforcement activities that may warrant TFRs include, but are not limited to, situations where there is a direct hazard to aircraft (for example, shots fired at aircraft) or where the presence of aircraft could exacerbate the danger to personnel on the ground (for example, SWAT or other personnel moving into position).

2. Law enforcement TFR NOTAMs must include wording that directs the media to contact the FAA Office of Communications (AOC) through the Washington Operations Center at 202-267-3333.

c. ARTCC managers (or designee) may issue TFRs in accordance with 14 CFR Sections 91.137(a)(1) and (a)(2).

d. TFRs issued in accordance with 14 CFR Section 91.137(a)(3) require FAA Headquarters approval.

## 20-2-5. DEGREE OF RESTRICTIONS

a. Section 91.137(a)(1). Restrictions issued in accordance with this section prohibit all aircraft from operating in the designated area unless that aircraft is participating in the disaster/hazard relief activities and is being operated under the direction of the official in charge of on-scene emergency response activities.

b. Section 91.137(a)(2). Restrictions issued in accordance with this section prohibit all aircraft from operating in the designated area unless at least one of the following conditions is met:

1. The aircraft is participating in hazard relief activities and is being operated under the direction of the official in charge of on-scene emergency response activities.

2. The aircraft is carrying law enforcement officials.

3. The aircraft is operating under an ATC approved IFR flight plan.

4. The operation is conducted directly to or from an airport within the area, or is necessitated by the impracticability of VFR flight above or around the area due to weather or terrain. Notification must be given to the ATC facility or office that was specified in the NOTAM for coordination with the official in charge of on-scene emergency response activities. Also, the operation does not hamper or endanger relief activities and is not conducted for observing the disaster.

5. The aircraft is carrying properly accredited news representatives, and prior to entering the area, a flight plan is filed.

**NOTE-**

*Coordination with the official in charge of on-scene emergency response activities is required prior to ATC allowing any IFR or VFR aircraft to enter into the TFR area.*

c. Section 91.137(a)(3). Restrictions issued in accordance with this section prohibit all aircraft from operating in the designated area unless at least one of the following conditions is met:

1. The operation is conducted directly to or from an airport within the area, or is necessitated by the impracticability of VFR flight above or around the area due to weather or terrain, and the operation is not conducted for the purpose of observing the incident or event. Notification must be given to the ATC facility that was specified in the NOTAM for coordination with the official in charge of the activity.

2. The aircraft is operating under an ATC approved IFR flight plan.

3. The aircraft is carrying incident or event personnel, or law enforcement officials.

4. The aircraft is carrying properly accredited news representatives and, prior to entering that area, a flight plan is filed with FSS or the ATC facility specified in the NOTAM. Flight plans must include aircraft identification, type, and color; radio frequencies to be used; proposed times of entry to and exit from the TFR area; the name of news media or organization and purpose of flight.

## Section 4. Supplemental Duties

### 21-4-1. DOMESTIC EVENTS NETWORK (DEN)

a. Domestic Events Network (DEN). A 24/7 FAA sponsored telephonic conference call network (recorded) that includes all of the air route traffic control centers (ARTCC) in the United States. It also includes various other Governmental agencies that monitor the DEN. The purpose of the DEN is to provide timely notification to the appropriate authority that there is an emerging air-related problem or incident.

b. Required ATC facility DEN participation.

1. All ARTCCs.

2. All facilities in the National Capital Region (NCR).

3. Approach control facilities must participate on the DEN during President of the United States (POTUS) TFRs, National Special Security Events (NSSE) affecting their area, or when directed by System Operations Security or the DEN Air Traffic Security Coordinator (ATSC).

4. ATCT must participate on the DEN during arrival and departure phase of POTUS, Vice President of the United States (VPOTUS), First Lady of the United States (FLOTUS) movements, or when directed by System Operations Security or the DEN ATSC.

5. If the ATC facility is not actively monitoring the DEN or have a dedicated line to the DEN, they should call into the DEN directly via (844) 432-2962 (toll free).

6. All communication regarding real-time security concerns and operational impacts should be initiated and coordinated on the DEN. The premise of the DEN is a need to share versus a need to know.

7. The DEN is an open mode of communication and is not intended for classified information.

### 21-4-2. PRESIDENTIAL/UNITED STATES SECRET SERVICE (USSS) SUPPORTED VIP MOVEMENT

a. Tactical Operations Security, System Operations Support Center (SOSC), (202) 267-8276, is responsible for the coordination, planning, and timely communication of POTUS, VPOTUS, FLOTUS, or USSS supported VIP movements and associated security measures.

b. Tactical Operations Security is responsible for the real-time coordination of POTUS, VPOTUS, FLOTUS, or USSS supported VIP movement and tactical adjustments to security initiatives as coordinated with the USSS.

c. Tactical Operations Security personnel, working in conjunction with the USSS, are the final authority on adjustments to or implementation of no-notice security measures regarding POTUS, VPOTUS, FLOTUS, or USSS supported VIP movement.

d. All security initiative coordination regarding POTUS, VPOTUS, FLOTUS, or USSS supported VIP movements will be coordinated on the DEN. At no time should the exact location of the above be transmitted over the DEN.

e. Presidential Prohibited Areas (P-56A & B, P-40, etc.) are coordinated and managed by Strategic Operations Security working in concert with the USSS. The System Operations Support Center (SOSC), (202) 267-8276, is responsible for waivers to prohibited areas. Tactical Operations Security is responsible for the real time coordination of Prohibited Area violations. Field facilities are responsible for the tracking and processing of violators.

f. All security related requests to ATC facilities from external agencies (for example, Air and Marine Operations Center (AMOC), Federal Bureau of Investigation (FBI), USSS, etc.), unless critical or a life or death situation, must be referred to the DEN at (844) 432-2962 (toll free).

**21-4-3. SPECIAL INTEREST FLIGHTS (SIFs)**

- a. Special Interest Flights identified by FAA, the Department of Defense or other national security agencies are the responsibility of Tactical Operations Security and must be coordinated on the DEN real time.
- b. Tactical Operations Security, System Operations Support Center, (202) 267-8276, is responsible for advanced coordination regarding special interest flights from State Department designated special interest countries known to the Agency.

**21-4-4. CONTINUITY OF OPERATIONS AND CONTINUATION OF GOVERNMENT (COOP/COG)**

- a. Strategic Operations Security is responsible to establish Agency policies and procedures regarding COOP/COG activities.
- b. Tactical Operations Security is responsible for the coordination and accomplishment of Agency COOP/COG initiatives upon activation.
- c. Tactical Operations Security, in conjunction with appropriate agencies, is the final authority regarding NAS operations involving COOP/COG activities.

**21-4-5. CLASSIFIED OPERATIONS**

- a. Strategic Operations Security is responsible for the coordination and implementation of all classified operations that impact the NAS.
- b. Tactical Operations Security is responsible for the tactical coordination of classified operations in the NAS. Tactical Operations Security, in coordination with appropriate agencies, is the final authority regarding classified operations within the NAS.

**21-4-6. INTELLIGENCE ANALYSIS AND COMMUNICATION**

- a. Tactical Operations Security must provide staffing at operational locations where intelligence and threat assessments potentially impacting the NAS are processed and reviewed.
- b. Tactical Operations Security is responsible to communicate any intelligence/threat concerns with potential NAS impact to the Director, System Operations Security.
- c. Tactical Operations Security personnel are responsible to correlate the feasibility of threats and the potential impact to the NAS.
- d. Tactical Operations Security will work in conjunction with Strategic Operations Security to amend and/or implement national security procedures to mitigate any potential threats to the NAS.

**21-4-7. UAS SPECIAL GOVERNMENTAL INTEREST (SGI) OPERATIONS**

- a. Public UAS and, in select cases, civil UAS operations may be needed to support activities which answer significant and urgent governmental interests, including national defense, homeland security, law enforcement, and emergency operations objectives. These operations are authorized through UAS SGI Addendums.
- b. Requests for UAS SGI operations are processed as either a COA addendum, modification, or a Part 107 authorization and granted through the SGI process managed by System Operations Security, and applied under the authority of their System Operations Support Center (SOSC).



## Index

[References are to page numbers]

### A

- ACCIDENT/INCIDENT RECORDINGS, 4-8-1
- ADAPTATION OF EXTERNAL ALTIMETER SETTINGS, 8-2-1
- ADAPTED ALTIMETER SETTINGS, 8-2-1
- Administration of Facilities
  - ATS Continuity, 2-1-3
  - Authorization for Separation, 2-1-11
  - Checking Published Data, 2-1-3
  - Duty Familiarization, 2-2-1
  - Equipment Trouble, 2-2-7
  - Facility Directives Repository, 2-2-7
  - Handling MANPADS Incidents, 2-1-8
  - Interregional Requirements, 2-1-1
  - Position Responsibilities, 2-2-1
  - Position/Sector Binders, 2-1-1
  - Reference Files, 2-1-2
  - Release of Information, 2-1-2
  - Sign In/Out and On/Off Procedures, 2-2-4
  - Standard Operating Procedures, 2-1-1
  - VSCS Equipment, 2-2-7
- ADS-B OUT OFF OPERATIONS, 5-4-6
- ADS-B TRANSMITTERS, REPORTING INOPERATIVE OR MALFUNCTIONING ADS-B TRANSMITTERS, 2-1-18
- ADVANCE APPROACH INFORMATION, 6-4-1, 10-3-2
- ADVISORY SERVICE TO ARRIVING VFR FLIGHTS, 10-4-3
- AERIAL SAMPLING/SURVEYING, 5-3-1
- AERONAUTICAL ADVISORY STATIONS (UNICOM/MULTICOM), 3-2-2
- Air Traffic Control Assigned Airspace (ATCAA), 2-1-16
- AIR TRAFFIC FACILITY RESPONSIBILITIES, 21-2-3
- AIR TRAFFIC PROCEDURES BULLETIN, 2-2-5
- Air Traffic Security Coordinator (ATSC), 21-3-1
- Air Traffic Tactical Operations Programs, 18-2-1
- AIRBORNE CONTAMINATION, 5-3-1
- Aircraft
  - DOE, 5-3-1
  - Aerial Sampling/Surveying, 5-3-1
  - Due Regard Operations, 5-3-1
  - Weather Reconnaissance Flights, 5-3-2
  - Flight Inspection, 5-2-1
  - High Altitude Inspections, 5-2-1
  - Identification Problems, 2-1-10
  - Identifying DOT/FAA, 5-2-1
  - R & D Flight, 5-2-2
- AIRCRAFT CALL SIGNS USED FOR SENSITIVE GOVERNMENT FLIGHTS, 5-4-6
- Airport, Traffic Patterns, 2-1-15
- Airport Arrival Rate (AAR), 10-7-1
- Airport Construction, 10-3-7
  - Change in Runway Length, 10-3-7
- Airport Emergency Plans, 2-1-8
- Airport Lighting, 10-6-1
- AIRPORTS, SUSPICIOUS ACTIVITIES, 2-7-1
- Altimeter Requirements, 2-10-1
- Altimeter Setting to ARTCC, 2-10-3
- Altitude Assignments, S/VFR and VFR, 3-8-4
- ALTRV FLIGHT DATA PROCESSING, 8-1-1
- AMPLITRON OR PARAMETRIC AMPLIFIER FAILURE, 7-2-1
- Appearance, 2-7-1
- Approach Control Airspace, 2-1-11
- Approach Light Systems, 10-6-2
- APPROACHES TO PARALLEL RUNWAYS, 10-3-8
- AREAS OF NONVISIBILITY, 10-1-2
- ARFF, 2-1-9
- ARTCC to ARTCC Coordination
  - Procedures, 18-8-3
  - Responsibilities, 18-8-3
- ARTCC to ARTCC FEA/FCA Coordination, 18-8-3
- ASDE PERFORMANCE CHECKS, 10-5-4
- ASR PERFORMANCE CHECKS, 10-5-2

**[References are to page numbers]**

ATC SURVEILLANCE SOURCE USE, 3-6-2  
 ATIS, 10-4-1  
 ATOP, 6-7-1  
   ATOP Channel Changeovers, 6-7-2  
 ATPB. *See* AIR TRAFFIC PROCEDURES BULLETIN  
 ATSC. *See* Air Traffic Security Coordinator  
 AUDIO DATA RETENTION, 3-4-3  
 AUTHORIZED MESSAGES NOT DIRECTLY ASSOCIATED WITH AIR TRAFFIC SERVICES, 3-2-1  
 Automated Position Sign On/Off, 4-6-5  
 AUTOMATED WEATHER DISPLAY STATUS, 8-3-1  
 AUTOMATIC ACQUISITION/TERMINATION AREAS, 12-6-2  
 AUTOMATION PROGRAM CHANGES, 12-6-2

**B**

BACKUP/AUGMENTATION OF WEATHER OBSERVATIONS, 2-9-1  
 Bird Hazards, 2-1-12  
 Blood Donors, 2-8-2  
 Bomb Threats, 2-1-7  
 Briefing, Air Traffic Procedures Bulletin, 2-2-5  
 Briefings, Order Changes, 2-2-6

**C**

C-UAS, 2-1-20  
 CA, 12-6-2  
 CALCULATING AARs, 10-7-1  
 Capping and Tunneling, 18-7-5  
 CATEGORIES OF OPERATIONS, 9-1-1  
 CHANGES TO MTR AND MOA PUBLISHED ACTIVITY SCHEDULES, 6-3-3  
 Charts  
   Disposition of Obsolete, 2-1-15  
   EOVM, 3-8-5  
   Minimum Vectoring Altitude, 3-8-1

CLASS B AIRSPACE, 12-1-3  
 CLASS C AIRSPACE, 12-1-2  
 Classified Operations, 21-4-2  
 CLEANING INSTRUMENT COVERS, 3-1-2  
 Color Displays-Terminal, Color Use on ATC Displays, 3-9-1  
 Combine/Recombine an ATCT/TRACON, 2-1-16  
 Communications  
   Battery-powered Transceivers, 3-3-2  
   CIRNOT Handling, 2-2-5  
   Emergency Frequencies, 3-3-1  
   Facility Status Report, 3-3-2  
   GENOT Handling, 2-2-5  
   Monitoring Frequencies, 3-3-1  
   Service "F", 3-3-1  
   Telephone, 3-3-1  
   Testing ELT, 3-3-2  
   Use of Communications, 3-2-1  
     FBI Use, 3-2-1  
   VSCS Frequency Backup, 3-3-3  
   VSCS Reconfigurations, 3-3-3  
   VTABS, 3-3-3  
 Comparison Checks, 2-10-2  
 COMPUTER DATA RETENTION, 8-1-2  
 Conferences  
   Coordination of Procedures, 4-2-2  
   Local, 4-2-1  
   Published Items, 4-2-2  
 CONFLICT ALERT FUNCTION PARAMETERS, 8-2-1  
 Continuity of Operations and Continuation of Government (COOP/COG), 21-4-2  
 COOP/COG. *See* Continuity of Operations and Continuation of Government  
 Coordination  
   Communication and Documentation, 21-5-1, 21-6-1  
   Coordination, 21-5-1  
   Local, 4-2-1  
   Responsibilities, 21-5-1, 21-6-1  
 Correspondence  
   Disposition of VAR, 4-5-2  
   Irregular Operation, 4-1-1  
   Letters of Procedures, 4-5-1  
   Letters to Airmen, 4-5-1

**[References are to page numbers]**

Policy/Procedures, 4-1-1  
 Preliminary Environmental Review, 4-1-1  
 Service Area Review, 4-1-1  
 Standards, 4-1-1  
 COUNTER UNMANNED AIRCRAFT  
 SYSTEMS (C-UAS), 2-1-20  
 CRITERIA FOR IFR AIRCRAFT HANDLED  
 COUNT, 9-1-1  
 CWAs, 6-3-1

**D**

DATA DISPLAY FOR BLOCK ALTITUDE  
 FLIGHTS, 8-3-1  
 DATA RECORDING, 12-2-1  
 DATA RETENTION, 12-2-1  
 DEBRIS RESPONSE AREAS, DISPLAYING ON  
 THE SITUATION DISPLAY, 2-1-24  
 DEFICIENCIES IN SYSTEM, 7-2-1, 10-5-3  
 DEN. *See* Domestic Events Network  
 Density Altitude Broadcast, 2-10-3  
 Derelict Balloons/Objects, 19-5-1  
 DIGITAL MAP VERIFICATION, 8-3-1, 12-6-3  
 DISSEMINATION OF WEATHER  
 INFORMATION, 10-3-1  
 Domestic Events Network (DEN), 21-4-1

**E**

E-MSAW ADAPTATION, 8-2-2  
 EDST. *See* En Route Decision Support Tool  
 (EDST)  
 ELECTRONIC ATTACK (EA), 7-2-1  
 ELT Incident, 9-3-1  
 En Route  
 Areas of Operation, 6-1-1  
 Areas of Specialization, 6-1-1  
 Computer Interface, 6-5-1  
 Flight Progress Strip, Usage, 6-1-2  
 General, 6-1-1  
 Operating Position Designators, 6-1-2

Operations, 6-3-1  
 Sector Information Binders, 6-2-1  
 Sectors, 6-1-1  
 Configuration, 6-1-1  
 Services, 6-4-1  
 EN ROUTE CONTROLLER TEAM CONCEPT,  
 6-2-1  
 En Route Data  
 Deficiencies, 7-2-1  
 Performance, 7-1-1  
 En Route Decision Support Tool (EDST), 6-6-1  
 Computer Data Retention, 6-6-4  
 Outages, 6-6-3  
 Responsibilities, Facility Manager, 6-6-1  
 Responsibilities, Operations Manager-in-  
 Charge, 6-6-1  
 Responsibilities, Operations Supervisor-in-  
 Charge, 6-6-1  
 Restrictions Inventory and Evaluation, 6-6-3  
 Standard Use of Automated Flight Data Manage-  
 ment, 6-6-2  
 Traffic Counts and Delay Reporting, 6-6-4  
 Transfer of Position Responsibility, 6-6-4  
 URET Airspace Configuration Elements, 6-6-2  
 Waiver, Interim Altitude Requirements, 6-6-4  
 En Route Information Display System, 6-9-1  
 General, 6-9-1  
 EN ROUTE SECTOR INFORMATION BINDER,  
 6-2-1  
 Equipment  
 Frequencies, 16-2-1  
 General, 16-1-1  
 EQUIVALENT LATERAL SPACING  
 OPERATIONS (ELSO), 10-3-9  
 ERAM HOLD INFORMATION FACILITY  
 DIRECTIVE REQUIREMENTS, 8-2-3  
 ERAM HOLDING PATTERN ADAPTATION ,  
 8-2-3  
 ERAM MASTER TOOLBAR MAP BUTTON  
 LABEL, 8-2-4  
 ERAM SPECIAL ACTIVITY AIRSPACE (SAA)  
 ADAPTATION , 8-2-3  
 ERIDS, 6-9-1  
 Establishing Diverse Vector Area, 3-8-6  
 Explosives Detection, 2-1-9

**[References are to page numbers]****F**

FAA FACILITIES, SUSPICIOUS ACTIVITIES,  
2-7-1

## Facility

Identification, 2-1-15  
Visitors, 2-7-2

FACILITY COMPLEMENTS, 2-5-2

Facility Directives Repository (FDR), 2-2-7

## Facility Equipment

Basic, 3-1-1  
Color Displays-Terminal, 3-9-1  
Generator Transfer Procedures, 3-1-2  
Maintenance, 3-1-1

FACILITY SECURITY, 2-7-1

## Facility Statistical Data

Amending and Reviewing Data, 13-5-1  
General, 13-1-1  
Instrument Approach, 9-2-1  
Itinerant Operations, 13-2-1  
Local Operations, 13-3-1  
Operational Count, 9-1-1  
Other Reports and Forms, 9-3-1  
Overflight Operations, 13-4-1

## Facility Statistical Data (Alaska Only)

Aircraft Contacted, 17-2-1  
Flight Plan Count, 17-3-1  
FSS Lists, Logs, and Tallies (OASIS), 17-6-1  
General, 17-1-1  
Pilot Briefing Count, 17-4-1  
Reports and Information, 17-5-1

FALCON REPLAY SYSTEM, 2-1-24

Familiarization/Currency Requirements, 2-3-1

FAULT LOG, 12-2-2

FDR. *See* Facility Directives Repository

FEA/FCA PROCEDURES, 18-8-2

FEA/FCA RESPONSIBILITIES, 18-8-1

FEES, 4-8-1

FLIGHT DATA UNIT, 6-3-2

FLIGHT PLAN DROP INTERVAL, 8-1-2

FLIGHT PROGRESS STRIP USAGE, 10-1-5

## Flight Request

Aerobatic Practice, 5-4-5  
Certifying Record Attempts, 5-4-4

Crop Duster/Antique, 5-4-4

Deviation, 5-4-1

Flight Test, 5-4-4

Photogrammetric Flights, 5-4-5

Sanctioned Speed, 5-4-4

Flight Requests, Deviation from ADS-B Out  
Requirements, 5-4-2

## Flight Service Operations

General, 14-1-1  
Operations, 14-3-1  
Positions/Services, 14-2-1  
Services, 14-4-1  
Flight Plan, Prefiled, 14-4-1

## Flight Service Station

Operations  
Landing Area, Status Check, 14-3-1  
Liaison Visits, 14-3-1  
Tie-In NOTAM Responsibility, 14-3-1  
Position/Service Information Binders, Position/  
Services, 14-2-1

FOREIGN STATE DIPLOMATIC FLIGHTS,  
5-3-4

## Forms

7210-8, 9-3-1, 9-3-3  
7230-10, 4-6-3, 4-6-8  
7230-12, 9-2-1, 9-2-2  
7230-13, 17-5-2  
7230-14, 9-1-3, 9-1-4  
7230-16, 9-2-1  
7230-4, 4-6-1, 4-6-7, 18-5-5  
7233-1, 17-3-1, 17-4-1  
7233-4, 17-3-1, 17-4-1  
7233-5, 17-4-1  
Preparation, 4-6-1

FUNCTIONAL USE OF CERTIFIED TOWER  
RADAR DISPLAYS, 10-5-1

**G**

Gate Hold Procedures, 10-4-2

GO-AROUND/MISSED APPROACH, 10-3-8

**H**

HANDLING OF SIGMETs, CWAs, AND PIREPs,  
6-3-1

**[References are to page numbers]**

HEADSET TONE INCIDENTS, 3-3-4

Hours of Duty, 2-4-1

Service Hours, 2-4-1

Status of Service, 2-4-1

**I**

IFR AIRCRAFT HANDLED, 9-1-1

ILS/MLS HEIGHT/DISTANCE LIMITATIONS,  
10-3-3INCOMPATIBLE LIGHT SYSTEM OPERATION,  
10-6-1

Information, Law Enforcement, 2-2-6

Intelligence Analysis and Communication, 21-4-2

INTERIM ALTITUDE FACILITY DIRECTIVE  
REQUIREMENTS, 8-2-2**J**

JOB REQUIREMENTS, 2-2-1

**L**

LADP, 10-1-6

LAND AND HOLD SHORT OPERATIONS  
(LAHSO), 10-3-3

Law Enforcement, Cooperation with, 2-7-1

LAWRS Hours of Operation, 2-9-1

Legal Liabilities of Personnel, 2-2-1

LETTERS OF AGREEMENT, 4-3-1

Aircraft Call Signs, 4-4-1

APPROPRIATE SUBJECTS, 4-3-2

APPROVAL, 4-3-5

AUTOMATED INFORMATION TRANSFER  
(AIT), 4-3-8

CANCELLATION, 4-3-6

COMMERCIAL SPACE, 4-3-5

Commercial Space LOA Templates, Appendix  
6-1

DEVELOPING, 4-3-4

HOT AIR BALLOON LOAs FOR CLASS C  
AIRSPACE, 4-3-6

Operations Under Exemptions, 4-4-1

REVIEW, 4-3-5

REVISIONS, 4-3-6

RSU, 4-4-1

LINE UP AND WAIT (LUAW) OPERATIONS,  
10-3-3

LOA, 4-3-1

LOCAL INTERIM ALTITUDE, 8-2-4

Low Altitude Authorization Notification  
Capability, 12-9-1SMALL UAS (sUAS) ATC AUTHORIZA-  
TIONS, 12-9-1LOW LEVEL WIND SHEAR/MICROBURST  
DETECTION SYSTEMS, 10-3-1

LOW VISIBILITY OPERATIONS, 10-1-6

LUAW, 10-3-3

**M**MAGNETIC VARIATION AT STARS  
FACILITIES, 12-6-3MANPADS, Handling MANPADS Incidents,  
2-1-8

Maps, Video

Common Reference Points, 3-7-2

Intensity, 3-7-2

Mapping Standards, 3-7-1

Tolerance for Fix Accuracy, 3-7-1

Video Map Data, 3-7-1

Medical, 2-8-1

Alcohol, 2-8-2

Clearance Requirements, 2-8-1

Drugs and Sedatives, 2-8-1

Special Evaluations, 2-8-1

Status, 2-8-2

Meteorological Services and Equipment

Broadcasts, 15-3-1

General, 15-1-1

Weather Briefing, 15-2-1

MIA, 10-4-10

MILITARY AIRCRAFT MOVEMENTS, 9-1-3

MILITARY ATC BOARDS, 10-1-1

Military Headquarters, 1-1-3

MINIMUM IFR ALTITUDES (MIA), 6-4-1

MINIMUM SAFE ALTITUDE WARNING  
(MSAW) AND CONFLICT ALERT (CA),  
12-6-2

**[References are to page numbers]**

MINIMUM VECTORING ALTITUDE CHARTS  
(MVAC) PREPARATION  
(TERMINAL/MEARTS), 3-8-1

MOBILE CONTROL TOWERS, 10-1-6

MODE C INTRUDER (MCI) ALERT  
PARAMETERS, 8-2-2, 12-6-4

MSAW, 12-6-2

MSAW GTM CARTOGRAPHIC  
CERTIFICATION, UPDATES, AND  
RECOMPILATION, 12-6-3

MULTI-SENSOR RADAR OPERATIONS,  
12-6-5

MULTIPLE RUNWAY CROSSINGS, 10-3-6

**N**

NAS Changes, 3-1-2

NAS En Route Automation  
Displays, 8-3-1  
General, 8-1-1  
Procedures, 8-2-1

National Playbook, 18-22-1

National Programs  
Data Recording and Retention, 12-2-1  
Helicopter Route Chart, 12-4-1  
Standard Terminal Automation Replacement System (STARS), 12-6-1  
Terminal Area VFR Route, 12-5-1  
Terminal VFR Radar Services, 12-1-1  
VFR Planning Chart, 12-3-1

National Traffic Management Log, 18-5-1

Navigational Aids  
Malfunctions, 3-5-2  
Monitoring, 3-5-1  
Originating NOTAMs, 3-5-3

NONAVIATION WEATHER SERVICE, 2-9-2

**O**

Ocean21  
Controller Pilot Data Link Communications,  
6-7-2  
Error Repair Position Responsibilities, 6-7-1

Facility Manager Responsibilities, 6-7-1  
General, 6-7-1  
Operational Supervisor-In-Charge Responsibilities, 6-7-1  
Outages, 6-7-2  
Transfer of Position, 6-7-2

OPERATING INITIALS, 2-2-3

OPERATING POSITION DESIGNATORS,  
10-1-1

OPERATION OF LIGHTS WHEN TOWER IS  
CLOSED, 10-6-1

OPERATIONAL AARs, 10-7-2

OPERATIONAL GUIDANCE FOR FUSION,  
3-6-4

Operational Line of Authority

Air Traffic Security Coordinator (ATSC), 21-3-1  
AUTHORITY FOR OPERATIONAL SECURITY-  
RELATED ACTIONS, 21-3-1

OPERATIONAL MODE TRANSITION  
PROCEDURES, 12-6-4

OPERATIONAL SECURITY-RELATED  
ACTIONS, AUTHORITY, 21-3-1

Operations and Staffing, 11-2-1

Operations Security, Strategic and Tactical  
Coordination, 21-5-1

Operational Line of Authority, 21-3-1  
Organizational Missions, 21-1-1  
Supplemental Duties, 21-4-1

Opposite Direction Operations, 2-1-22

Organizational Missions

Special Operations Security Mission, 21-1-1  
System Operations Security Mission, 21-1-1  
Tactical Operations Security Mission, 21-1-1

Organizational Responsibilities, 11-1-1

Outdoor Laser Demonstrations, 2-1-16

**P**

PARTICIPATION IN LOCAL AIRPORT  
DEICING PLAN (LADP), 10-1-6

Pilot/Controller Outreach Operation Rain Check,  
4-2-1

PIREPs, 6-3-1

**[References are to page numbers]**

POSITION DUTIES AND RESPONSIBILITIES,  
10-2-1

Practice Instrument Approaches, 6-4-1, 10-4-3

Precision Approach Path Indicator (PAPI) Systems,  
10-6-4

Precision Obstacle Free Zone (POFZ), 10-1-8

Presidential Aircraft

Communications Circuits, Use of, 5-1-3

Coordination, 5-1-1, 5-1-3

Monitoring, 5-1-2

Movement, 5-1-3

Rescue Support, 5-1-3

Security of Information, 5-1-3

Presidential Movement, 21-4-1

Pretaxi Clearance Procedures, 10-4-2

Procedural Information, Waivers, 19-7-1

PROCEDURES FOR OPENING AND CLOSING  
RUNWAYS, 10-1-4

PROCESSING GPS ANOMALY REPORTS,  
3-5-2

Prohibited/Restricted Areas, 2-1-12

PURPOSE, Coordination, 21-6-1

**Q**

Quality Assurance Review, 4-6-1

**R**

RADAR AND/OR COMPUTER DATA, 4-8-1

RADAR DISPLAY INDICATORS, 10-5-1

RADAR PERFORMANCE CHECKS, 7-1-1

RADAR SELECTION PROCEDURES, 12-6-4

RADAR TOLERANCES, 10-5-3

RAIN CONFIGURATION, 12-7-2

RECEIPT OF NOTAM DATA, 6-3-2

RECOMMENDED ALTITUDES FOR  
SURVEILLANCE APPROACHES, 10-5-4

Recorders, Tape

Assignment of Channels, 3-4-1

Use of, 3-4-1

Recording Equipment, Checking and Changing,  
3-4-2

Records

Collection of Data, 4-6-1

Facility, 4-6-1

Reduced Separation on Final, 10-4-9

Reduced Vertical Separation Minimum, 6-8-1

Equipment Suffix and Display Management,  
6-8-3

Facility Manager Responsibilities, 6-8-1

General, 6-8-1

Mountain Wave Activity, 6-8-3

Non-RVSM Operator Coordination Require-  
ments, 6-8-2

Operations Manager-In-Charge Responsibilities,  
6-8-2

Operations Supervisor-In-Charge/Controller-In-  
Charge Responsibilities, 6-8-2

Suspension of RVSM, 6-8-3

Wake Turbulence and Weather Related Turbu-  
lence, 6-8-3

REENTRY VEHICLE MISHAPS, 18-4-4

Regulatory Information

Authorizations and Exemptions, 19-3-1

Fixed-wing SVFR, 19-2-1

Moored Balloons, Kites, and Unmanned Rockets,  
19-5-1

Parachute Jump, 19-4-1

Temporary Flight Restrictions, 20-1-1

Waivers and Authorizations, 19-1-1

RELAY OF RVR VALUES, 10-3-2

REPORTING

DEATH, ILLNESS, OR OTHER PUBLIC  
HEALTH RISK ON BOARD AIRCRAFT,  
2-1-21

DIVERTED AIRCRAFT ARRIVING FROM  
INTERNATIONAL LOCATIONS, 2-1-18

INOPERATIVE OR MALFUNCTIONING  
ADS-B TRANSMITTERS, 2-1-18

SUSPICIOUS UAS ACTIVITIES, 2-1-19

Reports

Delay Reporting, 4-7-1

Monthly, 4-7-1

System Impact, 4-7-1

Unidentified Flying Object, 4-7-1

**[References are to page numbers]**

REQUIREMENTS FOR ERAM DATA BLOCK  
CHANGES WITHOUT COORDINATION ,  
8-2-2

Responsibilities, 21-2-1

RESTRICTED DRUGS, 2-8-2

REVIEW AIRSPACE STRUCTURE, 6-3-2

Route Advisories, 18-20-1

Route Test, 18-24-1, 18-25-1

Runway

Intersection Takeoffs, 2-1-10

Obstacle Identification, 2-1-15

RUNWAY AND TAXIWAY LIGHTS, 10-6-4

RUNWAY EDGE LIGHTS ASSOCIATED WITH  
MEDIUM APPROACH LIGHT  
SYSTEM/RUNWAY ALIGNMENT  
INDICATOR LIGHTS, 10-6-4

RUNWAY FLOODLIGHTS, 10-6-4

RUNWAY STATUS LIGHTS (RWSL), 10-6-5

RUNWAY VISUAL RANGE (RVR)  
EQUIPMENT, 2-9-3

RVR EQUIPMENT, 2-9-3

RWSL, 10-6-5

**S**

SAA. *See* SPECIAL ACTIVITY AIRSPACE

Safety Logic Systems Operations Supervisor/CIC  
Procedures, 12-7-1

Safety Logic Systems Supervisor/CIC Procedures  
ASDE, 12-7-1

Ensure Status, 12-7-2

Limited Configuration, 12-7-2

Monitor Alerts and Ensure Corrective Action,  
12-7-2

Watch Checklist, 12-7-3

SAME, 2-9-3

SATR, 2-1-13

SECTIONAL AERONAUTICAL AND  
TERMINAL AREA CHARTS, 10-1-2

Security, 2-7-1

Security Notice (SECNOT), 21-7-1

SECURITY OF JOINT-USE RADAR DATA,  
2-7-2

SELECTED ALTITUDE LIMITS, 8-3-1

SELECTING ACTIVE RUNWAYS, 10-1-2

SFRA, 2-1-13

SHUTDOWN OF PAR ANTENNAS, 10-5-1

SIFs. *See* Special Interest Flights

SIGMETs, 6-3-1

SIMULTANEOUS CONVERGING  
INSTRUMENT APPROACHES, 10-4-6

SIMULTANEOUS INDEPENDENT  
APPROACHES, 10-4-4

Simultaneous Offset Instrument Approaches,  
10-4-8

SIMULTANEOUS WIDELY- SPACED  
PARALLEL OPERATIONS, 10-4-6

SINGLE PERSON MIDNIGHT OPERATIONS,  
2-6-6

SINGLE SITE COVERAGE STAGE A  
OPERATIONS, 8-2-1

SITUATION DISPLAY

DISPLAYING DEBRIS RESPONSE AREAS,  
2-1-24

DISPLAYING REENTRY AREAS, 2-1-24

DISPLAYING SPACE LAUNCH, 2-1-24

SPACE LAUNCH MISHAPS, 18-4-4

SPECIAL ACTIVITY AIRSPACE, 2-1-13

SCHEDULING, COORDINATION, AND DIS-  
SEMINATION, 2-1-13

SPECIAL AIR TRAFFIC RULES, 2-1-13

SPECIAL FLIGHT RULES AREA, 2-1-13

Special Interest Flights (SIFs), 21-4-2

SPECIAL INTEREST SITES, 2-1-23

SPECIAL OPERATIONS SECURITY GROUP  
RESPONSIBILITIES, 21-2-1

Special Operations Security Mission, 21-1-1

SPECIAL RADAR ACCURACY CHECKS,  
7-1-1

Special Security Instructions (SSI) (14 CFR  
Section 99.7), 21-6-1

SPECIAL USE FREQUENCIES, 6-4-1

SPECIFIC AREA MESSAGE ENCODING  
(SAME) WEATHER RADIOS, 2-9-3



**[References are to page numbers]**

STRATEGIC OPERATIONS SECURITY GROUP  
RESPONSIBILITIES, 21-2-2

STRATEGIC OPERATIONS SECURITY  
MISSION, 21-1-1

SUA and PAJA Frequency Information, 2-1-16

sUAS Operations, 19-6-1  
LOW ALTITUDE AUTHORIZATION AND  
NOTIFICATION CAPABILITY (LAANC),  
19-6-1

14 CFR Part 107, 19-6-1

AIRSPACE WAIVER PROCESS, 19-6-2

MANUAL AIRSPACE AUTHORIZATION  
PROCEDURES (VIA DRONEZONE),  
19-6-1

Supplemental Duties

Classified Operations, 21-4-2

Continuity of Operations and Continuation of  
Government (COOP/COG), 21-4-2

Domestic Events Network (DEN), 21-4-1

Intelligence Analysis and Communication,  
21-4-2

Presidential Movement, 21-4-1

Special Interest Flights (SIFs), 21-4-2

Surveillance Source Use

Commissioning Facilities, 3-6-1

Monitoring Mode 3/A Codes, 3-6-3

Prearranged Coordination, 3-6-4

System and Display Setting, 3-6-3

Target Sizing, 3-6-3

SUSPICIOUS ACTIVITIES AROUND  
AIRPORTS OR FAA FACILITIES, 2-7-1

Suspicious Aircraft/Pilot Activities, 2-1-17

System Operations Security, Operations Security:  
Tactical, Special, and Strategic, 21-1-1

System Operations Security Mission, 21-1-1

**T**

T & A Recording, 4-6-6

TACTICAL OPERATIONS SECURITY GROUP  
RESPONSIBILITIES, 21-2-1

Tactical Operations Security Mission, 21-1-1

Takeoff Clearance, 10-3-6

TBM, 18-6-1

TBO, 18-6-1

Temporary Flight Restrictions, 20-1-1

Disaster/Hazard Areas, 20-2-1

Emergency Air Traffic Rules, 20-4-1

National Disaster Areas in the State of Hawaii,  
20-3-1

Proximity of Space Flight Operations, 20-6-1

Proximity of the Presidential and Other Parties,  
20-5-1

Vicinity of Aerial Demonstrations, 20-7-1

Vicinity of Major Sporting Events, 20-7-1

Terminal Operations, Services, and Equipment

Airport Arrival Rate (AAR), 10-7-1

General, 10-1-1

Lighting, 10-6-1

Operations, 10-3-1

Position Binders, 10-2-1

Radar, 10-5-1

Services, 10-4-1

TFRs. *See* Temporary Flight Restrictions

Time Checks, 2-4-1

Time Standards, 2-4-1

TIME-BASED MANAGEMENT (TBM), 18-6-1

APPROVAL AUTHORITY, 18-6-2

ATCSCC RESPONSIBILITIES, 18-6-2

FIELD FACILITY RESPONSIBILITIES,  
18-6-2

POLICY, 18-6-1

TBM WITHIN ARTCC AREA OF JURISDIC-  
TION, 18-6-2

TYPES, 18-6-1

TOWER/RADAR TEAM CONCEPTS, 10-1-1

TOWER/RADAR TEAM POSITION BINDERS,  
10-2-1

Traffic Lights, Gates, and Signals, 3-1-2

Traffic Management

ARTCC to ARTCC FEA/FCA Coordination,  
18-8-3

Coded Departure Routes, 18-19-1

Coordination, 18-5-1

Flow Constrained Area (FCA), 18-8-1

Flow Evaluation Area (FEA), Flow Constrained  
Area (FCA), Integrated Collaborative  
Rerouting (ICR), 18-8-1

Ground Delay Programs, 18-10-1

Ground Stop(s), 18-11-1, 18-13-1

Initiatives, 18-7-1

**[References are to page numbers]**

Line of Authority, 18-3-1  
 Monitor Alert Parameter, 18-9-1  
 North American Route Program, 18-12-1,  
 18-18-1  
 Organizational Missions, 18-1-1  
 Preferred IFR Routes Program, 18-17-1  
 Responsibilities, 18-2-1  
 Severe Weather Management, 18-15-1  
 Special Programs, 18-14-1  
 Supplemental Duties, 18-4-1  
 SWAP, 18-16-1  
 Traffic Management (TM) Support of  
 Non-Reduced Vertical Separation Minima  
 (RVSM) Aircraft, 18-23-1  
 Trajectory-Based Operations (TBO), 18-6-1  
 MISSION, 18-6-1  
 POLICY, 18-6-1  
 TRANSITION PROCEDURES, 8-1-1  
 TRANSPORTATION SECURITY  
 ADMINISTRATION AND FAA JOINT  
 OPERATING PROCEDURES, 2-1-24  
 TRSA, 12-1-2

**U**

UAS, REPORTING SUSPICIOUS ACTIVITIES,  
 2-1-19  
 UAS DETECTION SYSTEMS, 2-1-20  
 UAS FACILITY MAP (UASFM), PROCEDURES  
 TO CHANGE ALTITUDES, 12-10-2  
 UAS Facility Maps (UASFM), 12-10-1  
 UAS Facility Maps (UASFM)  
 AUTHORIZATION MAP DESIGN PROCE-  
 DURES CLASS B/C/D AIRSPACE,  
 12-10-2  
 PART 107 OPERATION APPROVALS,  
 12-10-3  
 UAS Operations, 5-5-1  
 14 CFR Part 91, 5-5-1  
 CLASS A AIRSPACE, 5-5-2  
 CLASS B AIRSPACE, 5-5-2  
 CLASS C AIRSPACE, 5-5-2  
 CLASS D AIRSPACE, 5-5-3  
 CLASS E AIRSPACE, 5-5-3  
 CLASS G AIRSPACE, 5-5-3  
 LETTERS OF AGREEMENT (LOA), 5-5-3

MEMORANDUMS, 5-5-3  
 RESPONSIBILITIES, 5-5-1  
 TERMINAL RADAR SERVICE AREA (TR-  
 SA), 5-5-2  
 TYPES AND AUTHORITY, 5-5-1  
 UAS SGI ADDENDUM REQUEST PROCESS  
 AND COORDINATION, 21-5-1  
 UAS SPECIAL GOVERNMENTAL INTEREST  
 (SGI) OPERATIONS, 21-4-2  
 UASFM, 12-10-1  
 Unauthorized Laser Illumination of Aircraft,  
 2-1-16  
 USE OF ACTIVE RUNWAYS, 10-1-3  
 USE OF OTHER THAN FAA  
 COMMUNICATIONS CIRCUITS, 3-2-1  
 USE OF STARS QUICK LOOK FUNCTIONS,  
 12-6-1

**V**

VFR Waypoint Chart Program, 12-8-1  
 Criteria, 12-8-1  
 Definition, 12-8-1  
 Policy, 12-8-1  
 Responsibilities, 12-8-2  
 Visual Approach Slope Indicator (VASI) Systems,  
 10-6-3  
 VISUAL SEPARATION, 10-3-5  
 Volcanic Ash, 18-4-4

**W**

Waivers, Procedural, 19-7-1  
 APPROVAL PROCESS, 19-7-2  
 PERIODICITY OF WAIVER RENEWALS,  
 19-7-2  
 RENEWAL PROCESSING, 19-7-2  
 REQUESTS, 19-7-1  
 SAFETY DOCUMENTATION AND OTHER  
 SAFETY STUDIES, 19-7-1  
 Watch Coverage, 2-5-1  
 Area Supervision, 2-5-1  
 Consolidating Positions, 2-5-2  
 CONTROLLER-IN-CHARGE (CIC), 2-5-3  
 DESIGNATED LEAD SPECIALIST (DLS),  
 2-5-3

**[References are to page numbers]**

Holiday Staffing, 2-5-2	Manager, 2-6-1
Overtime Duty, 2-5-2	Overtime Duty, 2-6-5
Relief Periods, 2-5-2	Relief Periods, 2-6-4
Schedules, 2-5-1	Supervisor, 2-6-1
Supervision Coverage, 2-5-1	Weather/Visibility, 2-9-1
Supervisors Hours of Duty (Alaska Only), 2-5-2	Dissemination, 2-9-1
Watch Supervision	Record Center, 2-9-2
Assignments, 2-6-1	Visibility Charts, 2-9-2
Basic Watch Schedule, 2-6-4	Visual Observations, 2-9-2
CIC, 2-6-1	Wind Indicator Cross Check, 2-10-1
Consolidating Positions, 2-6-4	Wind Instrument Sensors, 2-10-1
Controller-in-Charge Designation, 2-6-2	WIND INSTRUMENTS AT APPROACH
Controller-in-Charge Selection, 2-6-3	CONTROL FACILITIES, 10-3-1
Holiday Staffing, 2-6-5	



# BRIEFING GUIDE



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

---

**Initiated By: AJV-0  
Vice President, Mission Support Services**

Table of Contents

<b>Paragraph Number</b>	<b>Title</b>	<b>Page</b>
2-1-31	REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES .....	BG-3
2-2-14	FACILITY DIRECTIVES REPOSITORY (FDR) .....	BG-4
3-5-3	PROCESSING GPS ANOMALY REPORTS .....	BG-6
20-2-4	ISSUING TFRs .....	BG-6

**1. PARAGRAPH NUMBER AND TITLE:****2-1-31. REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES**

**2. BACKGROUND:** Paragraph 2-1-31, Reporting Suspicious Aircraft/Pilot Activities, was in need of general updates, in particular, regarding suspicious transmissions and reporting suspicious unmanned aircraft systems (UAS) activities. The procedures for reporting suspicious UAS activities in FAA Order JO 7210.3, paragraph 2-1-34, Reporting Suspicious UAS Activities, removes the need for such procedures in paragraph 2-1-31 other than as a reference.

**3. CHANGE:**

<u>OLD</u>	<u>NEW</u>
<p><b>2-1-31. REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES</b></p> <p>a. Facility air traffic managers must ensure that the operational supervisor/controller-in-charge promptly reports any suspicious aircraft/pilot activities to the Domestic Events Network (DEN) Air Traffic Security Coordinator (ATSC).</p> <p style="text-align: center;">Add</p> <p><i>NOTE-</i> <i>Additional information for ATC on identifying suspicious situations is located in FAA Order JO 7610.4, Sensitive Procedures and Requirements for Special Operations, Chapter 7, Section 3, Suspicious Aircraft/Pilot Activity.</i></p> <p>b. The DEN ATSC must be notified as soon as possible of any suspicious activity, including the following:</p> <p>1. Radio communications are lost or not established. Consider any IFR aircraft that is NORDO for more than 5 minutes as suspicious. This includes all aircraft (for example, general aviation, law enforcement, military, <u>medevac</u>) regardless of transponder code. ATC actions taken to establish communications with the NORDO aircraft must be reported to the DEN ATSC.</p> <p style="text-align: center;"><b>b2 through b3</b></p> <p>4. Phantom or <u>inappropriate</u> transmissions such as unusual questions about military activities or sensitive/secure areas.</p> <p style="text-align: center;">Add</p> <p>5. Inconsistent or abnormal repetitive aircraft activity such as: flights over/near sites of interest or prohibited/restricted airspace, <u>inappropriate</u> speed or rate of climb/descent, or missed crossing restrictions or reporting points.</p> <p style="text-align: center;"><b>b6 through b9</b></p>	<p><b>2-1-31. REPORTING SUSPICIOUS AIRCRAFT/PILOT ACTIVITIES</b></p> <p style="text-align: center;">No Change</p> <p><i>REFERENCE-</i> <i>FAA Order JO 7110.65, Para 2-1-2, Duty Priority.</i></p> <p style="text-align: center;">No Change</p> <p style="text-align: center;">No Change</p> <p>1. Radio communications are lost or not established. Consider any IFR aircraft that is NORDO for more than 5 minutes as suspicious. This includes all aircraft (for example, general aviation, law enforcement, military, <u>MEDEVAC</u>) regardless of transponder code. ATC actions taken to establish communications with the NORDO aircraft must be reported to the DEN ATSC.</p> <p style="text-align: center;">No Change</p> <p>4. Phantom or <u>deceptive</u> transmissions such as <u>impersonating a pilot or controller relaying ATC instructions, or</u> unusual questions about military activities or sensitive/secure areas.</p> <p><i>REFERENCE-</i> <i>FAA Order JO 7110.65, Para 2-4-6, False or Deceptive Communications.</i></p> <p>5. Inconsistent or abnormal repetitive aircraft activity such as: flights over/near sites of interest or prohibited/restricted airspace; <u>unanticipated</u> speed or rate of climb/descent; or missed crossing restrictions or reporting points.</p> <p style="text-align: center;">No Change</p>

10. Any other situation that may indicate a suspicious aircraft, including any reported or observed unauthorized unmanned aircraft activity or remote controlled model aircraft that deviate from normal practice areas/flight activities would be considered suspicious or a safety hazard.

REFERENCE-  
FAA Order JO 7110.65, Para 2-1-2, Duty Priority.  
Advisory Circular 91-57, Model Aircraft Operating Standards.

11. Any situation or pilot activity (for example, background noise, change in pilot’s voice characteristics, etc.) that may indicate a hijacked aircraft. Due to air to ground communications capabilities (e.g., data links, cellular phones), ATC facilities may learn of a hijack situation from alternate sources (for example, airline air operations center) rather than the aircrew itself.

10. Any other situation that may indicate a suspicious aircraft.

REFERENCE-  
FAA Order JO 7210.3, Para 2-1-34, Reporting Suspicious UAS Activities.

11. Any situation or pilot activity (for example, background noise, change in pilot’s voice characteristics, etc.) that may indicate a hijacked aircraft. Due to air to ground communications capabilities (e.g., data links, cellular phones), controllers may learn of a hijack situation from alternate sources (for example, airline air operations center) rather than from the aircrew itself.

**1. PARAGRAPH NUMBER AND TITLE:** 2-2-14. FACILITY DIRECTIVES REPOSITORY (FDR)

**2. BACKGROUND:** Paragraph 2-2-14, Facility Directives Repository (FDR), contains obsolete information about organizational structure. A general update and simplification of the paragraph is needed.

**3. CHANGE:**

**OLD**

**2-2-14. FACILITY DIRECTIVES REPOSITORY (FDR)**

The Facility Directives Repository (FDR) provides a centralized, automated web-based library for FAA employees to access all Letters of Agreement (LOA), Standard Operating Procedures (SOP), and FAA Facility Orders (FO) for Air Traffic Facilities throughout the National Airspace System.

**NOTE-**  
Directive information for Flight Service Stations (LOAs, SOPs, FOs) will only be required for those located in Alaska.

**a. The Vice President’s responsibility includes:**

**1. The Vice President for En Route and Oceanic Services must develop processes within the service unit to ensure repository entry functions are discharged effectively.**

**NEW**

**2-2-14. FACILITY DIRECTIVES REPOSITORY (FDR)**

The FDR is a web-based library for FAA employees **and authorized users** to access Letters of Agreement (LOAs) and facility directives. The FDR is available on the FAA intranet site at: <https://loa.faa.gov>.

**NOTE-**  
Directives information for Flight Service Stations is only required for those located in Alaska.

**a. The Vice President of Air Traffic Services and the Vice President of System Operations Services must provide oversight within their respective service units to ensure FDR responsibilities are administered.**

Delete



2. The Vice President for Terminal Services must develop processes within the service unit to ensure repository entry functions are discharged effectively.

Delete

3. The Vice President for System Operations Services must administer user functions and develop processes within the service unit to ensure repository entry functions are discharged effectively.

Delete

4. The Vice President for Operations Planning Services must administer system functions, provide access to the internet mirror site, and oversee the site operation and maintenance.

Delete

5. The Vice President for Safety Services oversees compliance.

Delete

**b. Facility Managers must:**

No Change

**1.** Ensure that current LOAs, SOPs and FOs are posted to the repository site.

**1.** Ensure that LOAs and **facility directives** are posted to the **FDR**.

**2.** Ensure that new and revised LOAs, SOPs and FOs are posted to the repository site before the effective date of the document.

**2.** Ensure that new and revised LOAs and **facility directives** are posted to the **FDR** before the effective date of the documents.

**3.** Establish an internal administrative process to ensure the posting, completeness, and accuracy of their facility’s documents.

Delete

**4.** Ensure Classified, Contractor **Proprietary**, and For Official Use Only information, is removed or excluded from posted documents.

**3.** Ensure Classified, Contractor **Proprietary**, and For Official Use Only information is removed or excluded from posted documents.

**5.** Ensure that all outdated and cancelled documents are removed from the FDR database.

**4.** Ensure that all outdated and canceled documents are removed from the FDR.

**c. General Managers must:**

No Change

**c1 and c2**

No Change

**3.** Ensure Classified, Contractor **Proprietary**, and For Official Use Only information, is removed or excluded from posted documents.

**3.** Ensure Classified, Contractor **Proprietary**, and For Official Use Only information is removed or excluded from posted documents.

**d.** Safety/Quality Assurance Offices must ensure facility compliance with posting LOAs, SOPs and FOs in the repository site in facility evaluation checklists.

**d.** Safety/Quality Assurance Offices must ensure facility compliance with posting LOAs and **facility directives to the FDR.**

**e.** The repository database is an intranet site within the FAA automation network firewall at <https://loa.faa.gov>.

**e. FDR functionality and administration:**

**1. PARAGRAPH NUMBER AND TITLE:** 3-5-3. PROCESSING GPS ANOMALY REPORTS

**2. BACKGROUND:** Global Positioning System (GPS) anomalies and unscheduled Radio Frequency Interference (RFI) of GPS frequencies have been incorrectly reported to the response and action teams resulting in delaying the mitigation of such events. This change is intended to alleviate confusion, therefore, improving the performance of the response and action teams.

**3. CHANGE:**

**OLD**

**3-5-3. PROCESSING GPS ANOMALY REPORTS**

Forward all information gathered as per FAA Order JO 7110.65, Air Traffic Control, 2-1-10, paragraph b, NAVAID MALFUNCTIONS, through the TMU to the ATCSCC, and the appropriate Operations Control Center (OCC) or Service Operations Center (SOC). SOC.

**NEW**

**3-5-3. PROCESSING GPS ANOMALY REPORTS**

**As soon as practicable, facilities must forward all information gathered, as per FAA Order JO 7110.65, Air Traffic Control, paragraph 2-1-10, NAVAID Malfunctions, subparagraph b, to the primary intake team for mitigation via the GPS Anomaly Website: [https://www.faa.gov/air\\_traffic/nas/gps\\_reports](https://www.faa.gov/air_traffic/nas/gps_reports). The information may also be forwarded to the Wide-Area Augmentation System (WAAS) Team (1-800-272-2989 or 9-ATO-WAAS-Operations-Team@faa.gov), or to the traffic management unit (TMU), or to the appropriate Service Operations Center (SOC) for assistance in entering the data into the website.**

Delete

*NOTE-*  
*The WAAS Operations-East Desk at the ATCSCC in Warrenton, Virginia is the national focal point for reporting and response coordination for all GPS anomalies.*

**1. PARAGRAPH NUMBER AND TITLE:** 20-2-4. ISSUING TFRs

**2. BACKGROUND:** Temporary flight restrictions (TFRs) issued for law enforcement activities require approval from the ATO Director of System Operations Security (or designee). FAA Headquarters (System Operations Security, AJR-2) or the ATO Service Area Director (or designee) having jurisdiction over the area concerned may issue TFRs in accordance with 14 CFR Section 91.137(a)(1) for law enforcement incidents posing direct hazards. These TFRs must be approved in advance by the ATO Director of System Operations Security (or designee) and operationally coordinated with the System Operations Support Center (SOSC) via a direct phone number to reduce the communications over the Domestic Events Network (DEN). Additionally, HIJACK was removed to indicate that the TFRs may be issued for other reasons as shown in the note.

**3. CHANGE:**

**OLD**

**20-2-4. ISSUING TFRs**

a. FAA Headquarters or the ATO Service Area Director (or designee) having jurisdiction over the area concerned may issue a TFR.

**NEW**

**20-2-4. ISSUING TFRs**

a. The Director, System Operations Security (AJR-2), (or designee) or the ATO Service Area Director (or designee) having jurisdiction over the area concerned may issue a TFR.

b. TFRs issued for hijacking events may be issued by FAA Headquarters or the ATO Service Area Director (or designee) with coordination through the Domestic Events Network (DEN) air traffic security coordinator (ATSC).

Add

**b. The Director, System Operations Security (AJR-2), (or designee) or the ATO Service Area Director (or designee) with jurisdiction over the area concerned may issue TFRs in accordance with 14 CFR Section 91.137(a)(1) for law enforcement incidents posing direct hazards. These TFRs must be approved in advance by the ATO Director of System Operations Security (or designee) and operationally coordinated with the System Operations Support Center (SOSC) at (202) 267-8276.**

**NOTE-**

**1. Law enforcement activities that may warrant TFRs include, but are not limited to, situations where there is a direct hazard to aircraft (for example, shots fired at aircraft) or where the presence of aircraft could exacerbate the danger to personnel on the ground (for example, SWAT or other personnel moving into position).**

Add

**2. Law enforcement TFR NOTAMs must include wording that directs the media to contact the FAA Office of Communications (AOC) through the Washington Operations Center at 202-267-3333.**

c and d

No Change

e. TFRs issued for law enforcement activities require approval from the ATO Director of System Operations Security (or designee).

Delete

**NOTE-**

Delete

**1. Law enforcement activities that may warrant TFRs include, but are not limited to, situations where there is a direct hazard to aircraft (for example, shots fired at aircraft) or where the presence of aircraft could exacerbate the danger to personnel on the ground (for example, SWAT or other personnel moving into position, etc.).**

**2. Law enforcement TFR NOTAMs must include wording that directs the media to contact the FAA Office of Communications (AOC) through the Washington Operations Center at 202-267-3333.**

Delete