

CHANGE

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

**JO 7110.10DD
CHG 1**

Air Traffic Organization Policy

**Effective Date:
March 21, 2024**

SUBJ: Flight Services

- 1. Purpose of This Change.** This change transmits revised pages to Federal Aviation Administration Order JO 7110.10DD, Flight Services.
- 2. Audience.** This order applies to all Federal Aviation Administration (FAA) 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 and http://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.
- 5. Distribution.** This change is distributed electronically to all who subscribe to receive email notification/access to it through the FAA's website. All organizations are responsible for viewing, downloading, and subscribing to receive email notifications when changes occur to this order. Subscriptions to air traffic directives can be made through the Air Traffic Plans and Publications website at https://www.faa.gov/air_traffic/publications/ or directly via the following link: https://public.govdelivery.com/accounts/USAFAA/subscriber/new?topic_id=USAFAA_39.
- 6. Disposition of Transmittal.** Retain this transmittal until superseded by a new basic order.
- 7. Page Control Chart.** See the page control chart attachment.

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FLEMING



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Flight Services Explanation of Changes Change 1

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

a. Editorial Changes

As a result of the Chart Supplement Modernization Initiative, the Chart Supplement U.S. definition was revised, and this is reflected in mentions of Chart Supplement in paragraph 6-2-1. Other editorial changes include correcting the spelling of “Juliet” to “Juliett” in paragraph 2-3-3, TBL 2-3-2; removing the term “degrees of the compass” and adding the appropriate phrase “referenced true north” in subparagraph 5-2-5c6(b), as well as adding “in degrees Fahrenheit” to specify the units of measure for temperature; and correcting a word use error in subparagraph 4-2-14a and 5-2-4 Note 2.

b. 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

REMOVE PAGES	DATED	INSERT PAGES	DATED
Table of Contents i through vii	10/5/23	Table of Contents i through vii	3/21/24
2-3-1	10/5/23	2-3-1	10/5/23
2-3-2	10/5/23	2-3-2	3/21/24
4-2-7	10/5/23	4-2-7	3/21/24
4-6-3 through 4-6-5	10/5/23	4-6-1 through 4-6-3	3/21/24
5-2-1	10/5/23	5-2-1	10/5/23
5-2-2	10/5/23	5-2-2	3/21/24
5-2-3	10/5/23	5-2-3	10/5/23
5-2-4 through 5-2-6	10/5/23	5-2-4 through 5-2-6	3/21/24
6-2-1	10/5/23	6-2-1	10/5/23
6-2-2	10/5/23	6-2-2	3/21/24
8-2-1	10/5/23	8-2-1	3/21/24
PCG-1	10/5/23	PCG-1	3/21/24
PCG A-3	4/20/23	PCG A-3	4/20/23
PCG A-4	4/20/23	PCG A-4	3/21/24
PCG A-7	4/20/23	PCG A-7	3/21/24
PCG A-8	4/20/23	PCG A-8	4/20/23
PCG A-11	4/20/23	PCG A-11	4/20/23
PCG A-12 through PCG A-18	4/20/23	PCG A-12 through PCG A-18	3/21/24
PCG A-19	10/5/23	PCG A-19	3/21/24
PCG A-20 and PCG A-21	4/20/23	PCG A-20 and PCG A-21	3/21/24
PCG C-1	4/20/23	PCG C-1	4/20/23
PCG C-2 through PCG C-12	4/20/23	PCG C-2 through PCG C-12	3/21/24
PCG G-1 and PCG G-2	4/20/23	PCG G-1 and PCG G-2	3/21/24
PCG M-1	4/20/23	PCG M-1	3/21/24
PCG M-2	4/20/23	PCG M-2	4/20/23
PCG N-1	4/20/23	PCG N-1	3/21/24
PCG N-2	4/20/23	PCG N-2	4/20/23
PCG P-3 and PCG P-4	10/5/23	PCG P-3 and PCG P-4	3/21/24
PCG R-7	4/20/23	PCG R-7	4/20/23
PCG R-8	4/20/23	PCG R-8	3/21/24
PCG S-1	4/20/23	PCG S-1	3/21/24
PCG S-2 and PCG S-3	10/5/23	PCG S-2 and PCG S-3	3/21/24
PCG S-4	10/5/23	PCG S-4	10/5/23
PCG S-7	10/5/23	PCG S-7	10/5/23
PCG S-8 and PCG S-9	10/5/23	PCG S-8 and PCG S-9	3/21/24
PCG S-10	10/5/23	PCG S-10	10/5/23
PCG T-3	4/20/23	PCG T-3	4/20/23
PCG T-4 through PCG T-7	4/20/23	PCG T-4 through PCG T-7	3/21/24
PCG T-8	4/20/23	PCG T-8	4/20/23
PCG U-1	4/20/23	PCG U-1	3/21/24
PCG U-2	4/20/23	PCG U-2	4/20/23

PCG V-5	4/20/23	PCG V-5	3/21/24
Index I-1 through I-8	10/5/23	Index I-1 through I-8	3/21/24

Table of Contents

Chapter 1. General

Section 1. Introduction

Paragraph	Page
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. DISTRIBUTION	1-1-2

Section 2. Terms of Reference

1-2-1. WORD MEANINGS	1-2-1
1-2-2. NOTES	1-2-2
1-2-3. REFERENCES	1-2-2
1-2-4. ANNOTATIONS	1-2-2
1-2-5. ABBREVIATIONS	1-2-2

Chapter 2. General Control

Section 1. General

2-1-1. FLIGHT SERVICE	2-1-1
2-1-2. DUTY PRIORITY	2-1-1
2-1-3. TRANSFER OF POSITION RESPONSIBILITY	2-1-1
2-1-4. PROCEDURAL APPLICATIONS	2-1-2

Section 2. Interphone Communications

2-2-1. GENERAL	2-2-1
2-2-2. TRANSMISSION PRIORITIES	2-2-1
2-2-3. PRIORITY INTERRUPTION	2-2-1
2-2-4. MESSAGE INITIATION	2-2-1
2-2-5. MESSAGE TERMINATION	2-2-2

Section 3. General Phraseology

2-3-1. PURPOSE	2-3-1
2-3-2. WORDS AND PHRASES	2-3-1
2-3-3. ICAO PHONETICS	2-3-1
2-3-4. NUMBER USAGE	2-3-2
2-3-5. EXPEDITIOUS COMPLIANCE	2-3-6

Section 4. Weather Phraseology

2-4-1. SURFACE OBSERVATIONS	2-4-1
-----------------------------------	-------

Paragraph	Page
2-4-2. ANNOUNCING MISSING ITEMS	2-4-6
2-4-3. WEATHER REMARKS	2-4-7
2-4-4. WEATHER ADVISORIES	2-4-9
2-4-5. RADAR	2-4-9
2-4-6. WINDS AND TEMPERATURES ALOFT FORECAST	2-4-10

Section 5. Aviation Phraseology

2-5-1. RELAY OF ATC COMMUNICATIONS	2-5-1
2-5-2. FACILITY IDENTIFICATION	2-5-1
2-5-3. AIRCRAFT IDENTIFICATION	2-5-1
2-5-4. DESCRIPTION OF AIRCRAFT TYPES	2-5-5
2-5-5. AIRCRAFT EQUIPMENT CODES	2-5-6
2-5-6. AIRWAYS AND ROUTES	2-5-6
2-5-7. NAVAID TERMS AND FIXES	2-5-7
2-5-8. RUNWAY CONDITIONS	2-5-8

Chapter 3. Emergency Services

Section 1. General

3-1-1. EMERGENCY DETERMINATION	3-1-1
3-1-2. OBTAINING INFORMATION	3-1-1
3-1-3. PROVIDING ASSISTANCE	3-1-1
3-1-4. RESPONSIBILITY	3-1-2
3-1-5. COORDINATION	3-1-2
3-1-6. RECORDING INFORMATION	3-1-2

Section 2. Emergency Assistance

3-2-1. INFORMATION REQUIREMENTS	3-2-1
3-2-2. FREQUENCY CHANGES	3-2-1
3-2-3. ALTITUDE CHANGE FOR IMPROVED RECEPTION	3-2-1
3-2-4. VFR AIRCRAFT IN WEATHER DIFFICULTY	3-2-1
3-2-5. ELT SIGNALS	3-2-2
3-2-6. AIRCRAFT BOMB THREATS	3-2-2
3-2-7. EXPLOSIVE CARGO	3-2-4
3-2-8. EXPLOSIVE DETECTION K-9 TEAMS	3-2-4
3-2-9. IN-FLIGHT EQUIPMENT MALFUNCTIONS	3-2-4
3-2-10. MINIMUM FUEL	3-2-5
3-2-11. EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT)	3-2-5
3-2-12. SUSPICIOUS UNMANNED AIRCRAFT ACTIVITY	3-2-5

Section 3. Aircraft Orientation

3-3-1. ACTIONS REQUIRED	3-3-1
3-3-2. SAFE ALTITUDES FOR ORIENTATIONS	3-3-1
3-3-3. GENERAL	3-3-1
3-3-4. AUTOMATIC DIRECTION FINDER	3-3-2
3-3-5. VOR CROSS-FIX	3-3-3
3-3-6. GLOBAL POSITIONING SYSTEM (GPS)	3-3-5
3-3-7. GUIDANCE TO AIRPORT	3-3-5

Section 4. Overdue Aircraft

Paragraph	Page
3-4-1. RESPONSIBILITY	3-4-1
3-4-2. OVERDUE AIRCRAFT ON A FLIGHT PLAN	3-4-1
3-4-3. OVERDUE AIRCRAFT NOT ON a FLIGHT PLAN	3-4-2
3-4-4. COMMUNICATIONS SEARCH	3-4-2
3-4-5. QALQ	3-4-2
3-4-6. ACTION BY DEPARTURE STATION ON RECEIPT OF QALQ	3-4-3
3-4-7. CANCELLATION OF THE QALQ	3-4-3
3-4-8. INREQ	3-4-3
3-4-9. ACTION UPON RECEIPT OF INREQ	3-4-4
3-4-10. CANCELLATION OF INREQ	3-4-5
3-4-11. ALNOT	3-4-5
3-4-12. ACTION UPON RECEIPT OF ALNOT	3-4-5
3-4-13. REPORTING ALNOT STATUS TO RCC	3-4-6
3-4-14. CANCELLATION OF ALNOT	3-4-6

Section 5. International SAR

3-5-1. ALERTING SERVICE	3-5-1
3-5-2. ALERTING PHASES	3-5-1
3-5-3. ALERTING MESSAGE CONTENTS	3-5-2
3-5-4. CANADIAN TRANSBORDER FLIGHTS	3-5-3
3-5-5. MEXICAN TRANSBORDER FLIGHTS	3-5-3

Chapter 4. In-Flight Services

Section 1. General

4-1-1. DESCRIPTION	4-1-1
4-1-2. PRE-DUTY REQUIREMENTS	4-1-1
4-1-3. OPERATIONAL PRIORITY	4-1-1
4-1-4. IN-FLIGHT WEATHER BRIEFINGS	4-1-2
4-1-5. AIRCRAFT-REPORTED NAVIGATIONAL EQUIPMENT MALFUNCTIONS	4-1-2
4-1-6. RECORDING IN-FLIGHT INFORMATION	4-1-3
4-1-7. FLIGHT PROGRESS STRIPS AND ENTRY DATA	4-1-6

Section 2. Radio Communications

4-2-1. FREQUENCY USE	4-2-1
4-2-2. AUTHORIZED TRANSMISSIONS	4-2-1
4-2-3. RADIO MESSAGE FORMAT	4-2-1
4-2-4. ABBREVIATED TRANSMISSION	4-2-2
4-2-5. ROUTINE RADIO CONTACTS	4-2-2
4-2-6. RADIO COMMUNICATIONS TRANSFER	4-2-5
4-2-7. ATC CLEARANCES, ADVISORIES, OR REQUESTS	4-2-5
4-2-8. DEPARTURE REPORTS	4-2-6
4-2-9. IFR FLIGHT PROGRESS REPORTS	4-2-6
4-2-10. ARRIVAL/MISSED APPROACH REPORTS	4-2-6
4-2-11. NON-DELIVERY OF MESSAGES	4-2-6
4-2-12. BROADCAST (BLIND TRANSMISSION) OF MESSAGES	4-2-7
4-2-13. UNAUTHORIZED ENTRY INTO CLASS A AIRSPACE OR PROHIBITED/ RESTRICTED AREA	4-2-7

Paragraph	Page
4-2-14. NON-EMERGENCY PARACHUTE JUMPING	4-2-7

Section 3. Advisory Services

4-3-1. DESCRIPTION	4-3-1
4-3-2. GENERAL	4-3-1
4-3-3. ELEMENTS AND PHRASEOLOGY	4-3-2
4-3-4. CHARTS	4-3-5
4-3-5. AUTHORIZED FREQUENCIES	4-3-6
4-3-6. TRAFFIC CONTROL	4-3-6
4-3-7. AIRCRAFT EQUIPMENT CHECKS	4-3-6

Section 4. Automatic Flight Information Service (AFIS)

4-4-1. GENERAL	4-4-1
4-4-2. FORMAT	4-4-1

Section 5. Airport Lighting and Visibility Aids

4-5-1. GENERAL	4-5-1
4-5-2. AIRPORT LIGHTING	4-5-1
4-5-3. CHANGING LIGHTED RUNWAYS	4-5-1
4-5-4. VISIBILITY AIDS	4-5-1
4-5-5. RVR	4-5-1
4-5-6. OPERATION OF LANDING DIRECTION INDICATOR	4-5-2

Section 6. Special VFR Operations

4-6-1. AUTHORIZATION	4-6-1
4-6-2. REQUESTS FOR SPECIAL VFR CLEARANCE	4-6-1
4-6-3. VISIBILITY BELOW ONE MILE	4-6-2
4-6-4. PREDESIGNED SPECIAL VFR CLEARANCES	4-6-3

Chapter 5. Pre-Flight Services

Section 1. General

5-1-1. DESCRIPTION	5-1-1
5-1-2. PRE-DUTY REQUIREMENTS	5-1-1
5-1-3. UNAVAILABILITY OF INFORMATION	5-1-1

Section 2. Pilot Briefing

5-2-1. DESCRIPTION	5-2-1
5-2-2. PILOT WEATHER BRIEFER CERTIFICATION	5-2-1
5-2-3. LOGGING BRIEFINGS	5-2-1
5-2-4. TYPE OF BRIEFING TO BE DELIVERED	5-2-1
5-2-5. DELIVERY OF STANDARD BRIEFINGS	5-2-2
5-2-6. DELIVERY OF ABBREVIATED BRIEFINGS	5-2-6
5-2-7. DELIVERY OF OUTLOOK BRIEFINGS	5-2-6

Section 3. Briefing Display

5-3-1. GENERAL	5-3-1
5-3-2. AVIATION WEATHER INFORMATION	5-3-1

Paragraph	Page
5-3-3. WEATHER INFORMATION ESSENTIALS	5-3-2
5-3-4. AERONAUTICAL INFORMATION	5-3-5
5-3-5. AERONAUTICAL INFORMATION ESSENTIALS	5-3-5

Chapter 6. Flight Data Services

Section 1. General

6-1-1. DESCRIPTION	6-1-1
6-1-2. RECORDING FLIGHT DATA INFORMATION	6-1-1
6-1-3. PART-TIME FSS CLOSURE ACTION	6-1-2
6-1-4. TELEPHONE REQUESTS FOR ATC CLEARANCES	6-1-2
6-1-5. COMMUNICATIONS SERVICES	6-1-2
6-1-6. TYPES OF ACCEPTABLE DATA	6-1-3
6-1-7. PRIORITY MESSAGES	6-1-3
6-1-8. GROUP CODES	6-1-3
6-1-9. MESSAGE FORMATS	6-1-5
6-1-10. WMSCR NEGATIVE RESPONSE MESSAGES	6-1-5
6-1-11. Q SIGNALS	6-1-5

Section 2. Flight Plan Handling

6-2-1. FLIGHT PLAN RECORDING	6-2-1
6-2-2. NOTIFYING ARTCC	6-2-2
6-2-3. CONTROL MESSAGES	6-2-4
6-2-4. ADDITIONAL MESSAGES	6-2-10
6-2-5. COORDINATE RNAV ROUTES	6-2-13
6-2-6. FLIGHT PLAN ACTIVATION	6-2-13
6-2-7. DEPARTURE MESSAGES	6-2-13
6-2-8. AWAITING MESSAGE ACKNOWLEDGMENT	6-2-15
6-2-9. ACKNOWLEDGING FLIGHT NOTIFICATION MESSAGES	6-2-15
6-2-10. ACTION BY ADDRESSEES	6-2-16
6-2-11. MAJOR FLIGHT PLAN CHANGES FROM EN ROUTE AIRCRAFT	6-2-16
6-2-12. CHANGE IN ETA	6-2-17
6-2-13. FLIGHT PLAN CLOSURE	6-2-17

Section 3. Military Operations

6-3-1. SPECIAL MILITARY FLIGHTS	6-3-1
6-3-2. MILITARY FOREIGN FLIGHTS	6-3-1
6-3-3. U.S. AIR FORCE/U.S. NAVY UNDERGRADUATE PILOTS	6-3-1
6-3-4. MESSAGE HANDLING	6-3-1
6-3-5. AIRCRAFT MOVEMENT SERVICES WITHIN AN ADIZ-IFR	6-3-1
6-3-6. AIRCRAFT MOVEMENT SERVICES WITHIN AN ADIZ-DVFR	6-3-2
6-3-7. FORWARDING DVFR INFORMATION	6-3-2
6-3-8. STOPOVER DVFR FLIGHT PLANS	6-3-3

Section 4. International Operations and Messages

6-4-1. GENERAL	6-4-1
6-4-2. ATS MESSAGES	6-4-1
6-4-3. CATEGORIES OF ATS MESSAGES	6-4-2

Paragraph	Page
6-4-4. SERVICE MESSAGES	6-4-2
6-4-5. TRANSMISSION VIA NADIN	6-4-3
6-4-6. TRANSMISSION OF ATS MESSAGES	6-4-3
6-4-7. ORIGINATING MESSAGES	6-4-4
6-4-8. ADDRESSING MESSAGES	6-4-5
6-4-9. FLIGHT PLAN FORMS AND INSTRUCTIONS	6-4-5
6-4-10. ICAO ATS MESSAGE FORMAT	6-4-6
6-4-11. FLIGHT PLAN CHANGES AND CANCELLATIONS	6-4-7
6-4-12. AERONAUTICAL MOBILE COMMUNICATIONS SERVICE	6-4-7
6-4-13. AIRCRAFT REPORTS (AIREP)	6-4-7
6-4-14. AIREP SPECIALS (ARS)	6-4-10
6-4-15. ARTCC RELAY OF VFR MESSAGES	6-4-10

Section 5. Customs Notifications and ADIZ Requirements

6-5-1. FLIGHT PLAN/CUSTOMS REQUIREMENTS	6-5-1
6-5-2. CUSTOMS REQUIREMENTS FOR INBOUND AND OUTBOUND AIRCRAFT ..	6-5-1
6-5-3. ADIZ REQUIREMENTS FOR INBOUND AND OUTBOUND AIRCRAFT	6-5-1

Section 6. Canadian Movement and Control Messages (Transborder Flights Only)

6-6-1. GENERAL	6-6-1
6-6-2. INBOUNDS FROM CANADA	6-6-1
6-6-3. OUTBOUNDS TO CANADA	6-6-1
6-6-4. OUTBOUNDS TO CANADA DEPARTING FROM OUTSIDE FLIGHT PLAN AREA	6-6-2
6-6-5. IFR FLIGHT PLANS DEPARTING CANADIAN AIRPORTS	6-6-2

Section 7. Mexican Movement and Control Messages (Transborder Flights Only)

6-7-1. GENERAL	6-7-1
6-7-2. INBOUNDS FROM MEXICO	6-7-1
6-7-3. OUTBOUNDS TO MEXICO	6-7-1

Chapter 7. NOTAM Services

Section 1. General

7-1-1. DESCRIPTION	7-1-1
7-1-2. ACCOUNTABILITY	7-1-1
7-1-3. SYSTEM OUTAGES	7-1-1

Section 2. NOTAM Handling

7-2-1. RESPONSIBILITY	7-2-1
7-2-2. RECORDING NOTAM INFORMATION	7-2-2

Chapter 8. FAA Weather Services

Section 1. Pilot Weather Reports

8-1-1. GENERAL	8-1-1
----------------------	-------

Paragraph	Page
8-1-2. RESPONSIBILITY	8-1-1
8-1-3. PIREP CLASSIFICATION	8-1-2
8-1-4. DATA TO BE INCLUDED IN PIREPs	8-1-3
8-1-5. PIREP FORMAT	8-1-3
8-1-6. REPORTING TURBULENCE IN PIREPs	8-1-8
8-1-7. REPORTING AIRFRAME ICING IN PIREPs	8-1-9
8-1-8. REPORTING WIND SHEAR IN PIREPs	8-1-10
8-1-9. PIREP HANDLING	8-1-10

Section 2. Surface Weather Observations

8-2-1. GENERAL	8-2-1
8-2-2. RESPONSIBILITY	8-2-1
8-2-3. WEATHER OBSERVATION CERTIFICATE	8-2-1
8-2-4. NONAVIATION WEATHER SERVICES	8-2-1

Section 3. Aviation Weather Cameras

8-3-1. GENERAL	8-3-1
8-3-2. DESCRIPTION	8-3-1
8-3-3. AVAILABILITY	8-3-1
8-3-4. FAA's AVIATION WEATHER CAMERA WEBSITE	8-3-1

Section 4. Future FAA Weather Services

8-4-1. GENERAL	8-4-1
8-4-2. POTENTIAL SERVICES	8-4-1

Appendices

Appendix A. FAA Form 7233-4, International Flight Plan	Appendix A-1
Appendix B. FAA Form 7233-1, Flight Plan	Appendix B-1
Appendix C. Other FAA Forms	Appendix C-1
Appendix D. Service B Message Formats	Appendix D-1
Index	I-1
PILOT/CONTROLLER GLOSSARY	PCG-1

Section 3. General Phraseology

2-3-1. PURPOSE

This section prescribes standardized procedures and phraseology for specialist to use when communicating weather and aeronautical information in broadcast, radiotelephone, and interphone communications. Where position or procedure-specific phraseology is required, there are references to the relevant chapter of this order.

2-3-2. WORDS AND PHRASES

Use the words or phrases in broadcast, radiotelephone, and interphone communications as contained in the Pilot/Controller Glossary.

2-3-3. ICAO PHONETICS

Use the ICAO pronunciation of numbers and, as necessary, individual letters for clarity. The ICAO radiotelephony alphabet and pronunciation guides are contained in TBL 2-3-1 and TBL 2-3-2.

NOTE-

Emphasize pronunciation of syllables in boldface.

TBL 2-3-1

ICAO Phonetics – Numbers

Character	Word	Pronunciation
0	Zero	ZE-RO
1	One	WUN
2	Two	TOO
3	Three	TREE
4	Four	FOW-ER
5	Five	FIFE
6	Six	SIX
7	Seven	SEV-EN
8	Eight	AIT
9	Nine	NIN-ER

TBL 2-3-2
ICAO Phonetics – Individual Letters

Character	Word	Pronunciation
A	Alfa	ALFAH
B	Bravo	BRAHVOH
C	Charlie	CHARLEE
D	Delta	DELLTAH
E	Echo	ECKOH
F	Foxtrot	FOKSTROT
G	Golf	GOLF
H	Hotel	HOHTELL
I	India	INDEE AH
J	Juliett	JEWLEE ETT
K	Kilo	KEYLOH
L	Lima	LEEMAH
M	Mike	MIKE
N	November	NOVEMBER
O	Oscar	OSSCAH
P	Papa	PAHPAH
Q	Quebec	KEHBECK
R	Romeo	ROWME OH
S	Sierra	SEEAIRAH
T	Tango	TANGGO
U	Uniform	YOUNEE FORM
V	Victor	VIKTAH
W	Whiskey	WISKEY
X	X-Ray	ECKSRAY
Y	Yankee	YANGKEY
Z	Zulu	ZOOLoo

2-3-4. NUMBER USAGE

State numbers as follows:

- a. Serial numbers. Separate digits.

EXAMPLE-

Number	Phraseology
11,495	ONE ONE FOUR NINER FIVE
20,069	TWO ZERO ZERO SIX NINER

- b. Altitudes or flight levels.

1. Altitudes. Pronounce each digit in the number of hundreds or thousands followed by the word “HUNDRED” or “THOUSAND,” as appropriate.

- c. A specified cancellation time.

4-2-12. BROADCAST (BLIND TRANSMISSION) OF MESSAGES

Broadcast messages as requested by ATC. If no accompanying transmitting instructions are received, transmit the message four times:

- a. Once upon receipt; and
- b. At approximately 3-minute intervals thereafter.

4-2-13. UNAUTHORIZED ENTRY INTO CLASS A AIRSPACE OR PROHIBITED/RESTRICTED AREA

a. Unauthorized entry into Class A airspace. When a VFR aircraft's position report indicates an unauthorized entry into of Class A airspace:

- 1. Inform the pilot of the Class A airspace unauthorized entry and request intentions.

PHRASEOLOGY-

YOU ARE IN CLASS A AIRSPACE. AN A-T-C CLEARANCE IS REQUIRED. REQUEST YOUR INTENTIONS.

- 2. Inform the control facility immediately.
- 3. Relay ATC instructions.

b. Unauthorized entry into prohibited/restricted areas. When an aircraft report indicates unauthorized entry into a prohibited/restricted area:

- 1. Inform the pilot.

PHRASEOLOGY-

YOU ARE IN A PROHIBITED/RESTRICTED AREA, AUTHORIZATION IS REQUIRED. REQUEST YOUR INTENTIONS.

- 2. Inform the control facility immediately. Relay ATC instructions.

4-2-14. NON-EMERGENCY PARACHUTE JUMPING

a. Specialists must forward all pertinent information received from pilots prior to and during parachute jumping activity to other affected ATC facilities.

b. When a pre-jump radio call required by 14 CFR 105.13 is received, contact the ARTCC sector or terminal facility in whose airspace the jump begins. If the controller has pertinent traffic, advise the jump aircraft to contact the control facility on the appropriate frequency for traffic information.

c. If the aircraft is unable to contact the control facility directly, obtain traffic information and relay it to the aircraft.

EXAMPLE-

"Cessna four zero Yankee, A-T-C advises traffic, Cessna Four twenty-one passing SPITS intersection eastbound on Victor one fifty-seven at seven thousand."

Section 6. Special VFR Operations

4-6-1. AUTHORIZATION

a. SVFR operations in weather conditions less than VFR minima are authorized:

1. For helicopters and fixed-wing aircraft at any location not prohibited by 14 CFR 91, Appendix D, Section 3, or when an exception to 14 CFR 91, Appendix D, Section 3, has been granted and an associated letter of agreement established.

REFERENCE-

14 CFR Part 91, Appendix D, Section 3, Locations at which Fixed-Wing Special VFR Operations are Prohibited.

2. Only within surface areas.

3. Only when requested by the pilot.

b. When the primary airport is reporting VFR, SVFR operations may be authorized for aircraft transiting surface areas when the pilot advises the inability to maintain VFR.

c. Control facilities must always retain SVFR operations authority when IFR operations are being conducted in surface areas.

4-6-2. REQUESTS FOR SPECIAL VFR CLEARANCE

a. Transmit SVFR clearances only for operations within surface areas on the basis of weather conditions. If weather conditions are not reported, transmit an SVFR clearance whenever a pilot advises unable to maintain VFR and requests an SVFR clearance, provided the pilot reports having at least 1-mile flight visibility.

PHRASEOLOGY-

A-T-C CLEARS (aircraft identification) TO ENTER/OUT OF/THROUGH (name) SURFACE AREA and if required,

(direction) OF (name) AIRPORT (specified routing), and MAINTAIN SPECIAL V-F-R CONDITIONS, and if required,

AT OR BELOW (altitude below 10,000 feet MSL), A-T-C CLEARS (aircraft identification) (coded arrival or departure procedure) ARRIVAL/DEPARTURE, (additional instructions as required).

b. Transmit clearance for local SVFR operations for a specified period (series of takeoffs and landings, etc.) upon request if the aircraft can be recalled when traffic or weather conditions require. Letters of agreement may be established.

PHRASEOLOGY-

LOCAL SPECIAL V-F-R OPERATIONS IN THE IMMEDIATE VICINITY OF (name) AIRPORT ARE AUTHORIZED UNTIL (time). MAINTAIN SPECIAL V-F-R CONDITIONS.

c. If an aircraft operating under VFR attempts to enter, depart, or operate within surface areas contrary to the provisions of 14 CFR 91.155 (basic VFR weather minimums), ensure the pilot is aware of the current weather conditions. Provide the following information:

1. At airports with commissioned automated weather with continuous automated voice capability, instruct the pilot to monitor the automated broadcast and advise intentions.

PHRASEOLOGY-

MONITOR (location) AUTOMATED WEATHER (frequency). ADVISE INTENTIONS.

2. At airports without a commissioned automated weather, or, if the pilot is unable to receive the automated weather broadcast, issue the most current weather report available. Advise the pilot that the weather is below VFR minima, and request the pilot's intentions.

PHRASEOLOGY-

(Location) WEATHER, CEILING (height), VISIBILITY (miles). (Location) SURFACE AREA IS BELOW V-F-R MINIMA. AN A-T-C CLEARANCE IS REQUIRED. ADVISE INTENTIONS.

NOTE-

Helicopters performing hover taxiing operations (normally not above 10 feet) within the boundary of the airport are considered to be taxiing aircraft.

d. At a pilot's request, issue a SVFR clearance, if appropriate, when a SVFR letter of agreement exists between an FSS and the control facility. If no agreement exists, request clearance from the control facility. State the aircraft's location and route of flight.

PHRASEOLOGY-

(Facility name) RADIO. REQUEST SPECIAL V-F-R CLEARANCE (aircraft identification) (direction) OF (location) AIRPORT (specified routing) TO ENTER/OUT OF/THROUGH (name) AIRPORT (specified routing).

NOTE-

IFR aircraft normally have priority over SVFR aircraft.

1. If the pilot is operating outside surface area and requests SVFR clearance, issue the clearance or if unable, advise the pilot to maintain VFR outside surface area and to standby for clearance.

PHRASEOLOGY-

MAINTAIN V-F-R OUTSIDE (location) SURFACE AREA. STANDBY FOR CLEARANCE.

2. When an aircraft requests a SVFR clearance to enter surface area during periods of SVFR activity, instruct the pilot to maintain VFR conditions outside surface area pending arrival/recall/departure of SVFR operations.

PHRASEOLOGY-

MAINTAIN V-F-R CONDITIONS OUTSIDE OF THE (location) SURFACE AREA PENDING ARRIVAL/RECALL/DEPARTURE OF IFR/SPECIAL V-F-R AIRCRAFT.

3. If the pilot is operating inside the surface area and requests an SVFR clearance, advise the pilot to maintain VFR and standby for clearance.

PHRASEOLOGY-

MAINTAIN V-F-R. STANDBY FOR CLEARANCE.

e. Suspend SVFR operations when necessary to comply with instructions contained in subparagraph 4-6-4b or when requested by the control facility.

PHRASEOLOGY-

SPECIAL V-F-R AUTHORIZATION DISCONTINUED. RETURN TO AIRPORT OR DEPART SURFACE AREA. ADVISE INTENTIONS.

After response:

REPORT LANDING COMPLETED/CLEAR SURFACE AREA.

4-6-3. VISIBILITY BELOW ONE MILE

a. When the ground visibility is officially reported at an airport as less than one mile, treat requests for SVFR operations at that airport by other than helicopters as follows:

NOTE-

14 CFR 91 does not prohibit helicopter SVFR flights when visibility is less than one mile.

1. Inform departing aircraft that ground visibility is less than one mile and that a clearance cannot be issued.

PHRASEOLOGY-

(Location) VISIBILITY (value). A-T-C UNABLE TO ISSUE DEPARTURE CLEARANCE.

2. Inform arriving aircraft operating outside of the surface area that ground visibility is less than one mile and, unless an emergency exists, a clearance cannot be issued.

PHRASEOLOGY-

(Location) VISIBILITY (value). A-T-C UNABLE TO ISSUE ENTRY CLEARANCE UNLESS AN EMERGENCY EXISTS.

3. Inform arriving aircraft operating within the surface area that ground visibility is less than one mile and request the pilot's intentions. Relay the pilot's response to the control facility immediately.

PHRASEOLOGY–

(Location) *VISIBILITY* (value). *ADVISE INTENTIONS.*

b. When weather conditions are not officially reported at an airport and the pilot advises the flight visibility is less than one mile, treat request for SVFR operations at that airport by other than helicopters as follows:

NOTE–

14 CFR 91 prescribes use of officially reported ground visibility as the governing ground visibility for VFR and SVFR operations at airports where it is provided and landing or takeoff flight visibility where it is not.

- 1.** Inform departing aircraft that a clearance cannot be issued.

PHRASEOLOGY–

UNABLE TO ISSUE DEPARTURE CLEARANCE.

2. Inform arriving aircraft operating outside the surface area that unless an emergency exists, a clearance cannot be issued.

PHRASEOLOGY–

A–T–C UNABLE TO ISSUE ENTRY CLEARANCE UNLESS AN EMERGENCY EXISTS.

3. Request intentions of arriving aircraft operating within surface areas. Relay the pilot's response to the control facility immediately.

PHRASEOLOGY–

ADVISE INTENTIONS.

c. Transmit a clearance to scheduled air carrier aircraft to conduct operations if ground visibility is not less than one half mile.

d. Transmit a clearance to an aircraft to fly through surface area if the pilot reports flight visibility is at least one statute mile.

4–6–4. PREDESIGNED SPECIAL VFR CLEARANCES

Transmit predesigned SVFR clearances only during those periods authorized by the control facility.

NOTE–

The control facility may rescind this authorization at any time.

a. Apply these procedures only to aircraft equipped with a functioning two-way radio. Refer all requests for no-radio SVFR operations to the control facility.

b. Transmit clearances so that only one aircraft at a time operates in surface area unless:

- 1.** Otherwise authorized by a letter of agreement between the control facility and the FSS.

2. A pilot requests and all pilots agree that they will maintain visual separation while operating in surface area.

PHRASEOLOGY–

MAINTAIN VISUAL SEPARATION FROM (aircraft type).

Section 2. Pilot Briefing

5-2-1. DESCRIPTION

Pilot briefings are the gathering, translation, interpretation, and summarization of weather and aeronautical information into a form usable by the pilot or flight supervisory personnel to assist in flight planning and decision-making for the safe and efficient operation of aircraft. These briefings may include, but are not limited to, weather observations, forecasts and aeronautical information (for example, NOTAMs, military activities, flow control information, and TFRs).

5-2-2. PILOT WEATHER BRIEFER CERTIFICATION

Flight service specialists must be certified to provide pilot briefings. Pilot weather briefer certification criteria is defined in FAA Order JO 7220.4, FAA Certification of Pilot Weather Briefer. The order details procedures and responsibilities for the FAA Pilot Weather Briefer Certification Program.

5-2-3. LOGGING BRIEFINGS

a. Briefings must be logged and retained in accordance with FAA Order 1350.14, Records Management. Briefings must be logged in operational systems when possible but may be logged manually, if needed.

b. Operational systems must, at a minimum, automatically record the facility/sector/vendor, date, position, time, and, for specialist-provided services, the specialist identification for each logged briefing. In addition, enter the following information:

1. Departure and destination.

2. Aircraft identification. The pilot's name may be substituted for the aircraft identification, if unknown.

3. Remarks, as applicable, to indicate type of briefing, and/or VNR.

c. To manually log pilot briefings, use one of the following FAA forms:

1. FAA Form 7233-2, Preflight Briefing Log. Use a separate form each day. Two or more forms may be used simultaneously at different operating positions. Complete boxes 1 through 3 on each form. Enter appropriate data in columns 4, 5, 6, 7, 8 (if pertinent), and 9. If the pilot's name is known, it may be substituted for the aircraft identification. As applicable, enter OTLK (outlook briefing), AB (abbreviated briefing), and/or VNR in column 8.

2. FAA Forms 7233-5, In-flight Contact Record, or 7230-21, Flight Progress Strip – FSS. Enter PB in block 14 if a briefing is provided. As applicable, also enter AB, OTLK, and/or VNR in the same block.

NOTE-

See Appendix C, FAA Forms.

d. Where audio recorders are used, facility management may limit entries on pilot briefing records to those required for facility use.

e. Where fast-file recorders are used and the pilot states the source of a briefing on the recorder, the source must be entered in the remarks field of the flight plan.

EXAMPLE-

PB/ENA

5-2-4. TYPE OF BRIEFING TO BE DELIVERED

a. There are three basic briefing packages:

1. *Standard*. A comprehensive briefing within six hours of departure.
2. *Abbreviated*. To update specific information as soon as practicable.
3. *Outlook*. For early planning; six hours or more before flight.

b. Provide the pilot with the type of briefing requested (standard, abbreviated, or outlook).

1. When it is not clear which type briefing is desired, provide the items requested and then determine if the pilot would like a standard briefing.
2. If a standard briefing is requested, conduct the briefing in accordance with paragraph 5-2-5.
3. If the pilot does not request a standard briefing, provide either an abbreviated briefing in accordance with paragraph 5-2-6 or an outlook briefing in accordance with paragraph 5-2-7.

NOTE-

1. *Systems providing automated briefing services may offer a variety of alternative briefing options such as email, interactive maps, video, mobile applications, etc. These alternative briefings must meet or exceed the requirements in paragraphs 5-2-5 to 5-2-7.*

2. *Systems providing unmanned aircraft briefing services must provide briefings in accordance with the regulations applicable to the operations.*

5-2-5. DELIVERY OF STANDARD BRIEFINGS

Standard briefings provide a complete and detailed depiction of the weather elements and aeronautical information for the intended flight. A standard briefing may be obtained within six hours of estimated time of departure (ETD) and may be requested multiple times for flights during dynamic weather.

a. Background information. Obtain the following information if not evident or already known:

1. Type of flight planned (VFR or IFR).
2. Aircraft identification or pilot's name; for pre-stored profiles, confirm aircraft identification and pilot's name.
3. Aircraft type.
4. Departure point.
5. Route of flight.
6. Destination.
7. Flight altitude(s).
8. ETD and estimated time en route (ETE).

NOTE-

Automated systems may provide specialists with background information saved on a pre-stored profile or master flight plan. Common sense and good judgment will determine the extent of verification needed to ensure the most expeditious and complete service.

b. International cautionary advisory. Issue the following advisory for briefings with international departures, arrivals, or routes of flight. This advisory may be omitted if the pilot advises it has been received or the system indicates the pilot has opted out of receiving the statement.

PHRASEOLOGY-

CHECK DATA AS SOON AS PRACTICAL AFTER ENTERING FOREIGN AIRSPACE, AS OUR INTERNATIONAL DATA MAY BE INACCURATE OR INCOMPLETE.

NOTE-

Automated systems may provide pilots with the preference to opt-out from receiving this statement by pilots acknowledging they have read and understood the advisory.

c. Using all available sources of weather and aeronautical information, provide the following data as applicable to the proposed flight. Provide the information in subparagraphs c1 through c11 in the sequence listed, if known, except as noted.

1. Adverse conditions.

(a) Include this element when meteorological or aeronautical conditions are reported or forecast that may influence the pilot to alter the proposed flight.

(b) Emphasize conditions that are particularly significant, such as:

- (1) Low-level wind shear.
- (2) Density altitude.
- (3) Thunderstorms.
- (4) Icing.
- (5) Frontal zones along the route of flight.

(6) Adverse NOTAMs (for example, airport/runway closures, air traffic delays, TFRs, or special flight rules areas [SFRA]).

NOTE–

This list only provides examples of conditions that may influence the pilot to alter the proposed flight and should not be considered all-inclusive.

(c) Weather advisories must include the type of advisory (for example, G–AIRMET, SIGMET, or CWA) followed by the pertinent information, regardless of delivery method (for example, specialist–provided or automated).

(d) Include urgent PIREPs (UUA) when appropriate.

NOTE–

1. *Common sense and good judgment will determine if a UUA is appropriate for a particular briefing. For example, a report for low-level wind shear with airspeed fluctuations of 10 knots is significant for the pilot of a light aircraft but not to the pilot of a heavy aircraft).*

2. *A catalog of resources can be found in Chapter 5, Section 3, Briefing Display.*

2. VFR Flight Not Recommended (VNR).

(a) Specialists must include this statement when VFR flight is proposed and sky conditions or visibilities are reported or forecast, surface or aloft, that, in your judgment, would make flight under VFR doubtful.

NOTE–

This statement is an advisory. The decision as to whether the flight can be conducted safely rests solely with the pilot.

(b) This element should not be provided as a blanket statement when the reported conditions, forecast, and/or trends, do not support it.

(c) This element may be provided at the beginning of the briefing or combined with the applicable adverse conditions for emphasis.

(d) A description of the conditions, affected locations, and times must be included to provide justification, clarity, and mutual understanding.

(e) Automated systems may include this statement when the system identifies one or more conditions that would make flight under VFR uncertain.

PHRASEOLOGY–

V–F–R FLIGHT NOT RECOMMENDED (location if applicable) DUE TO (conditions)

or

V–F–R NOT RECOMMENDED (location if applicable) DUE TO (conditions)

EXAMPLE–

“There are low ceilings along the entire route between nine hundred and one thousand feet. With the approach of a cold front, these clouds are forecast to become overcast and lower to below seven hundred feet. Mountains and passes are obscured. V–F–R flight not recommended between Salt Lake City and Grand Junction after two two zero zero Zulu.”

“V–F–R flight not recommended in the Kenai area until early afternoon. The current weather at Kenai is indefinite ceiling three hundred, visibility one, mist, and little improvement is expected before one eight zero zero Zulu.”

3. Check Density Altitude.

(a) Include this statement when flight is proposed to depart from and/or land at an airport with field elevations of 2,000 feet MSL or higher and temperatures, present or forecast, meet the criteria contained in TBL 5–2–1.

(b) Upon request, provide approximate density altitude data.

PHRASEOLOGY–

CHECK DENSITY ALTITUDE

NOTE–

This statement is only an advisory and the decision as to whether the flight can be conducted safely rests solely with the pilot.

**TBL 5–2–1
Density Altitude**

Field Elevation	Temperature (C)
2,000–2,999	29 degrees or higher
3,000–3,999	27 degrees or higher
4,000–4,999	24 degrees or higher
5,000–5,999	21 degrees or higher
6,000–6,999	18 degrees or higher
7,000–higher	16 degrees or higher

4. Synopsis.

(a) Provide a brief statement describing the type, location, and movement of weather systems and/or air masses that might affect the proposed flight.

(b) Automated systems may deliver the information using graphics.

(c) This element may be combined with adverse conditions and/or the VNR element, in any order, when it will help describe the conditions.

NOTE–

A catalog of resources can be found in Chapter 5, Section 3, Briefing Display.

5. Current conditions.

(a) Summarize from all available sources reported weather conditions applicable to the flight including but not limited to: departure airport reports (for example, aviation routine weather reports [METAR], weather camera analysis, etc.), PIREPs, clouds, visibilities, and precipitation.

(b) Emphasize information that confirms or refutes weather advisories.

(c) This element may be omitted, with pilot’s concurrence, if the proposed time of departure is beyond two hours, or if requested by the pilot.

(d) Automated systems may deliver the information using a variety of methods (for example, graphics, text, or dynamic displays).

NOTE–

A catalog of resources can be found in Chapter 5, Section 3, Briefing Display.

6. Forecast.

(a) Summarize from all available sources forecast information applicable to the proposed route and altitude(s) including but not limited to departure airport forecast and area forecast (graphical or textual based on the location), if in the briefer's judgment, it provides a better picture, clouds, visibilities, icing, turbulence, and precipitation.

(b) Provide the forecast wind in knots and degrees referenced to true north, and provide temperatures in degrees Fahrenheit. Interpolate wind directions and speeds between levels and stations as necessary.

NOTE–

Forecast winds aloft temperatures may be omitted if, in the briefer's assessment, they do not have an impact on the safety of the flight.

(c) Provide the destination forecast, including significant changes expected within one hour before and after the ETA.

(d) Provide trends that confirm or refute weather advisories.

(e) Provide the information in a logical order: departure, climb out, en route, descent, and arrival.

NOTE–

A catalog of resources can be found in Chapter 5, Section 3, Briefing Display.

7. NOTAMs.

(a) Provide pertinent NOTAMs for the departure, en route, and destination including those for special activity airspace (SAA) such as restricted areas, aerial refueling tracks and anchors, and lights out/night vision goggle operations.

NOTE–

Other SAA NOTAMs such as military operations areas (MOA), warning areas, and military training routes are considered "upon request" briefing items.

(b) Combine this element with adverse conditions when it might influence the pilot to alter the proposed flight (for example, airport/runway closures, air traffic delays, and TFRs).

8. Prohibited areas P-40, P-56, and the SFRA for Washington, DC. Include this element when pertinent to the route of flight. Advise the pilot that VFR flight within 60 miles of the DCA VOR/DME requires special awareness training, unless the pilot advises they are aware of the requirement or the system indicates the pilot has opted out of receiving the advisory.

NOTE–

1. *Automated systems may provide pilots with the preference to opt-out from receiving this statement by pilots acknowledging they have read and understood the advisory.*

2. *Refer to 14 CFR 91.161 and 14 CFR 93 for additional information including special awareness for flights in and around SFRAs and/or areas that require special air traffic rules.*

9. **ATC delays.** Inform the pilot of ATC delays and/or flow control advisories that might affect the proposed flight.

10. **Solicitation of PIREPs.** Request a report when in your judgment, a report of actual in-flight conditions is beneficial or when conditions meet criteria for solicitation of PIREPs (see Chapter 8, Section 1).

(a) This element should not be provided as a generic statement.

(b) To the extent possible, the solicitation should be accompanied by a specific request.

EXAMPLE–

"Please give us a pilot report regarding the forecast mountain obscuration through the Pass."

"Pilot reports are requested for icing conditions near Grand Forks."

"If able, please provide a pilot report about bases and tops in the vicinity of Atlanta De Kalb-Peachtree airport."

(c) Advise pilots they may contact an FSS to report en route conditions.

11. Upon Request. Provide any information requested by the pilot, if available (for example, approximate density altitude data, customs/immigration procedures, ADIZ rules, other published information, FDC NOTAMs, and military NOTAMs).

5-2-6. DELIVERY OF ABBREVIATED BRIEFINGS

Abbreviated briefings emphasize the more dynamic briefing elements that may have changed since a standard briefing was obtained. It helps the users focus on specific risk areas for the intended flight in an efficient manner and allows users to be proactive in reacting to changing conditions while in-flight.

- a. Obtain background information in accordance with subparagraph 5-2-5a.
- b. If applicable, issue the international cautionary advisory in accordance with subparagraph 5-2-5b.
- c. When a pilot desires specific information, only provide the requested information. If adverse conditions are reported or forecast, advise the pilot. At the pilot's request, provide details on these conditions, in accordance with subparagraphs 5-2-5c1-c3.
- d. When a pilot requests an update to a previous briefing, obtain from the pilot the time the briefing was received if not evident or already known. To the extent possible, limit the briefing to appreciable changes in meteorological and aeronautical conditions since the previous briefing. Provide the information in the sequence listed in paragraph 5-2-5.
- e. When a pilot requests to file a flight plan only, and adverse conditions are reported or forecast for the proposed route, ask if the pilot requires the information. If requested, provide details on these conditions, in accordance with subparagraph 5-2-5c1-c3).
- f. Solicit PIREPs in accordance with subparagraph 5-2-5c10.

NOTE-

Automated systems may provide a variety of options for pilots to obtain updates such as adverse conditions alerting capabilities, text messages, or interactive displays, etc.

5-2-7. DELIVERY OF OUTLOOK BRIEFINGS

Outlook briefings provide a general indication of which elements may be a factor during a flight and should only be used during planning six hours or more from the ETD.

- a. Conduct the briefing in accordance with paragraph 5-2-5. Omit items in subparagraphs c2, c3, c5, and c6(b) through c10, unless specifically requested by the pilot or deemed pertinent by the specialist.
- b. When the proposed flight is scheduled to be conducted beyond the valid time of the available forecast data, provide a general outlook and then advise the pilot when complete forecast data will be available for the proposed flight.

NOTE-

Automated systems may provide a variety of options for pilots to obtain forecast data beyond six hours from ETD such as interactive displays, text summaries, etc.

Section 2. Flight Plan Handling

6-2-1. FLIGHT PLAN RECORDING

a. Use the operational system to record and file flight plans, flight plan modifications, cancellations, activations, and closures for appropriate distribution and processing.

b. Locally approved procedures may be used to manually record flight plans prior to entry into the operational system during heavy traffic periods or system outages.

c. Record flight plans on the appropriate flight plan form or electronic equivalent.

1. Civilian flight plans consist of the information requested on FAA Form 7233-4 (or Form 7233-1 for stereo routes) or an electronic equivalent. For IFR flight plans, all items except Item 19 are transmitted to the ARTCC as part of the IFR flight plan proposal. Item 19 information is retained by the service that filed the flight plan and made available to ATC upon request.

2. Department of Defense (DoD)/military flight plans and civilian stereo route flight plans can still be filed using FAA Form 7233-1, or electronic equivalent.

3. Where FAA Form 7233-1, Flight Plan, and FAA Form 7233-4, International Flight Plan, are referenced, DoD use of the equivalent DoD forms 175 and 1801, respectively, is implied and acceptable.

4. Within U.S. controlled airspace, FAA Form 7233-1, Flight Plan, may be used by filers of DoD/military flight plans and civilian stereo route flight plans.

5. The international flight plan format is mandatory for:

(a) Any flight plan filed, with the exception of DoD flight plans and civilian stereo route flight plans, which can still be filed using the format prescribed in FAA Form 7233-1, Flight Plan.

NOTE-

DoD Form DD-175 and FAA Form 7233-1 are considered to follow the same format.

(b) Any flight that will depart U.S. domestic airspace. For DoD flight plan purposes, offshore warning areas may use FAA Form 7233-1 or military equivalent.

(c) Any flight requesting routing that requires performance based navigation.

(d) Any flight requesting services that require filing of capabilities only supported in the international flight plan.

6. For flight plans with RNAV routes in domestic U.S. airspace, use FAA Form 7233-4, International Flight Plan, and use the following guidelines for pilots filing flight plans in domestic U.S. airspace if automatic assignment of any of the following RNAV routes are desired:

(a) RNAV SID;

(b) RNAV STAR; and/or

(c) RNAV point-to-point.

NOTE-

1. *The instructions for flight plan completion are addressed in Appendix A, FAA Form 7233-4, International Flight Plan, or Appendix B, FAA Form 7233-1, Flight Plan.*

2. *FSS operational systems contain an electronic equivalent of authorized FAA Flight Plan Forms; detailed instructions are included in each system's operational manual.*

d. Completion of all items or fields is not required in every case, and all items filed are not always transmitted. For example, flight plan data received from an operations office may be limited to only those items required for ATC or SAR purposes, provided the operations office obtains complete information on the flight.

- e. Use authorized abbreviations where possible.
- f. For domestic flights, accept flight plans regardless of departure point within the NAS.
 1. Insert the originator of the flight plan into Item 18 of the FPL following the indicator ORGN/.

2. Forward complete VFR flight plan proposals to the tie-in facility/sector for the departure and destination points. A complete VFR flight plan for civilian flights includes FAA Form 7233-4 Item 19 Supplemental Information sent in a separate SPL message.

NOTE-

FPL and SPL message formats may be found in Appendix D, Service B Message Formats.

- g. Accept military flight plan proposals, cancellations, and closures from any source.

NOTE-

Part-time operations offices must provide complete information in the event it is needed for SAR purposes.

- h. Advise pilots, as appropriate, on the following:

1. Identify the tie-in station for the departure point, and advise the pilot to report departure time directly to that facility.

2. When a departure report is unlikely because of inadequate communications capability, advise the pilot that the flight plan will be activated using the proposed departure time as the actual departure time. Include "ASMD DEP" in remarks. The pilot is responsible for closing, cancelling, or extending the flight plan if the flight is canceled or delayed.

3. Determine the flight plan area in which the destination is located. Request the pilot close the flight plan with the tie-in facility. Provide the pilot the tie-in facility/sector contact information upon request.

4. Recommend that a separate flight plan be filed for each leg of a VFR flight.

5. Request the pilot inform FSS whenever the filed time en route changes more than 30 minutes.

6. On return flights from remote areas, such as a fishing site, establish a mutually acceptable date/time with the pilot for alerting SAR.

7. When a pilot files to an airport served by a part-time FSS and the ETA is during the period the facility is closed, ask the pilot to close with the associated FSS, identified in FAA Order JO 7350.9, Location Identifiers, and the Chart Supplement.

8. Upon request, inform pilots filing IFR flight plans of the appropriate and most effective means of obtaining IFR departure clearances.

9. When a pilot files a DVFR flight plan, advise the pilot to activate with an FSS. Also advise the pilot that a discrete beacon code will be assigned upon activation.

NOTE-

1. A discrete beacon code may be assigned when the flight plan is filed, as necessary. If the pilot wants to file a DVFR flight plan that departs outside the facility's flight plan area, provide the applicable toll-free number for the departure FSS.

2. Discrete beacon codes are assigned to facilities in accordance with FAA Order JO 7110.66, National Beacon Code Allocation Plan (NBCAP).

6-2-2. NOTIFYING ARTCC

- a. Transmit flight plans and flight plan amendments to the ARTCC for the departure point.

b. Facilities should use FAA Order JO 7350.9, Location Identifiers, or the appropriate aeronautical charts to determine the ARTCC to which each transmission must be made.

c. Transmit flight plans (if necessary) and flight plan amendments via interphone to the flight data position (error referral position) or departure sector when the aircraft's proposed departure time is within the parameters listed in TBL 6-2-1.

Section 2. Surface Weather Observations

8-2-1. GENERAL

a. The FAA's Surface Weather Observer Program is a component of the NAS. It combines with other elements of the NAS to ensure the overall safety of air transportation services.

b. FAA is responsible for certifying all aviation weather observers at FAA-sponsored stations, in one or more of the following observer types:

1. FAA contract weather observers.
2. Limited aviation weather reporting station observers.
3. Non-federal observation program observers.
4. Tower visibility observers.

8-2-2. RESPONSIBILITY

FSS where personnel provide backup/augmentation of automated weather observations, or take manual observations, must use FAA Order JO 7900.5, Surface Weather Observing, as the basic source of guidance for completion of observations. This order provides the practices, procedures, and responsibilities for weather observation services including observations taken to fulfill requirements for augmentation or minimum operational requirements during backup. It also describes the various types of surface observations and prescribes the criteria for taking SPECI observations.

8-2-3. WEATHER OBSERVATION CERTIFICATE

a. Before assuming full responsibility for taking any type of surface observation or any part thereof, all personnel required to take weather observations must be certified by FAA in accordance with the criteria defined in FAA Order JO 7900.5, Surface Weather Observing.

b. Required currency shall be maintained by taking observations at a weather reporting location.

c. Currency records will be maintained in accordance with FAA Order JO 3120.4, Air Traffic Technical Training, FAA Order JO 7900.5, Surface Weather Observing, and local directives.

8-2-4. NONAVIATION WEATHER SERVICES

a. FAA must not be responsible for providing weather information unless it is directly related to the actual or intended operation of aircraft.

b. Personnel must not encourage nor solicit nonaviation weather activity.

PILOT/CONTROLLER GLOSSARY

PURPOSE

a. This Glossary was compiled to promote a common understanding of the terms used in the Air Traffic Control system. It includes those terms which are intended for pilot/controller communications. Those terms most frequently used in pilot/controller communications are printed in *bold italics*. The definitions are primarily defined in an operational sense applicable to both users and operators of the National Airspace System. Use of the Glossary will preclude any misunderstandings concerning the system's design, function, and purpose.

b. Because of the international nature of flying, terms used in the Lexicon, published by the International Civil Aviation Organization (ICAO), are included when they differ from FAA definitions. These terms are followed by “[ICAO].” For the reader's convenience, there are also cross references to related terms in other parts of the Glossary and to other documents, such as the Code of Federal Regulations (CFR) and the Aeronautical Information Manual (AIM).

c. Terms used in this glossary that apply to flight service station (FSS) roles are included when they differ from air traffic control functions. These terms are followed by “[FSS].”

d. This Glossary will be revised, as necessary, to maintain a common understanding of the system.

EXPLANATION OF CHANGES

e. Terms Added:

CHART SUPPLEMENT
CHART SUPPLEMENT ALASKA
CHART SUPPLEMENT PACIFIC

f. Terms Modified:

AERONAUTICAL INFORMATION PUBLICATION (AIP)
AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER (ATCSCC)
ALPHANUMERIC DISPLAY
ALTITUDE READOUT
AUTOMATED UNICOM
CHART SUPPLEMENT U.S.
NAVAID CLASSES
PRECIPITATION RADAR WEATHER DESCRIPTIONS
SAFETY LOGIC SYSTEM ALERTS
TERMINAL VFR RADAR SERVICE
TIE-IN FACILITY
UNICOM
VOT

g. Editorial/format changes were made where necessary. Revision bars were not used due to the insignificant nature of the changes.

ADS [ICAO]–

(See ICAO term AUTOMATIC DEPENDENT SURVEILLANCE.)

ADS–B–

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST.)

ADS–C–

(See AUTOMATIC DEPENDENT SURVEILLANCE–CONTRACT.)

ADVANCED AIR MOBILITY (AAM)–A transportation system that transports people and property by air between two points in the NAS using aircraft with advanced technologies, including electric aircraft or electric vertical takeoff and landing aircraft, in both controlled and uncontrolled airspace.

ADVISE INTENTIONS– Tell me what you plan to do.

ADVISORY– Advice and information provided to assist pilots in the safe conduct of flight and aircraft movement.

(See ADVISORY SERVICE.)

ADVISORY CIRCULAR (AC)– An FAA publication, advisory and descriptive in nature, which is not regulatory.

ADVISORY FREQUENCY– The appropriate frequency to be used for Airport Advisory Service.

(See LOCAL AIRPORT ADVISORY.)

(See UNICOM.)

(Refer to ADVISORY CIRCULAR NO. 90-66.)

(Refer to AIM.)

ADVISORY SERVICE– Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement.

(See ADDITIONAL SERVICES.)

(See LOCAL AIRPORT ADVISORY.)

(See RADAR ADVISORY.)

(See SAFETY ALERT.)

(See TRAFFIC ADVISORIES.)

(Refer to AIM.)

ADW–

(See ARRIVAL DEPARTURE WINDOW)

AERIAL REFUELING– A procedure used by the military to transfer fuel from one aircraft to another during flight.

(Refer to VFR/IFR Wall Planning Charts.)

AERODROME– A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure, and movement of aircraft.

AERODROME BEACON [ICAO]– Aeronautical beacon used to indicate the location of an aerodrome from the air.

AERODROME CONTROL SERVICE [ICAO]– Air traffic control service for aerodrome traffic.

AERODROME CONTROL TOWER [ICAO]– A unit established to provide air traffic control service to aerodrome traffic.

AERODROME ELEVATION [ICAO]– The elevation of the highest point of the landing area.

AERODROME TRAFFIC CIRCUIT [ICAO]– The specified path to be flown by aircraft operating in the vicinity of an aerodrome.

AERONAUTICAL BEACON– A visual NAVAID displaying flashes of white and/or colored light to indicate the location of an airport, a heliport, a landmark, a certain point of a Federal airway in mountainous terrain, or an obstruction.

(See AIRPORT ROTATING BEACON.)

(Refer to AIM.)

AERONAUTICAL CHART– A map used in air navigation containing all or part of the following: topographic features, hazards and obstructions, navigation aids, navigation routes, designated airspace, and airports. Commonly used aeronautical charts are:

a. Sectional Aeronautical Charts (1:500,000)– Designed for visual navigation of slow or medium speed aircraft. Topographic information on these charts features the portrayal of relief and a judicious selection of visual check points for VFR flight. Aeronautical information includes visual and radio aids to navigation, airports, controlled airspace, permanent special use airspace (SUA), obstructions, and related data.

b. VFR Terminal Area Charts (1:250,000)– Depict Class B airspace which provides for the control or segregation of all the aircraft within Class B airspace. The chart depicts topographic information and aeronautical information which includes visual and radio aids to navigation, airports, controlled airspace, permanent SUA, obstructions, and related data.

c. En Route Low Altitude Charts– Provide aeronautical information for en route instrument navigation (IFR) in the low altitude stratum. Information includes the portrayal of airways, limits of controlled airspace, position identification and frequencies of radio aids, selected airports, minimum en route and minimum obstruction clearance altitudes, airway distances, reporting points, permanent SUA, and related data. Area charts, which are a part of this series, furnish terminal data at a larger scale in congested areas.

d. En Route High Altitude Charts– Provide aeronautical information for en route instrument navigation (IFR) in the high altitude stratum. Information includes the portrayal of jet routes, identification and frequencies of radio aids, selected airports, distances, time zones, special use airspace, and related information.

e. Instrument Approach Procedure (IAP) Charts– Portray the aeronautical data which is required to execute an instrument approach to an airport. These charts depict the procedures, including all related data, and the airport diagram. Each procedure is designated for use with a specific type of electronic navigation system including NDB, TACAN, VOR, ILS RNAV and GLS. These charts are identified by the type of navigational aid(s)/equipment required to provide final approach guidance.

f. Instrument Departure Procedure (DP) Charts– Designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations. Each DP is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.

g. Standard Terminal Arrival (STAR) Charts– Designed to expedite air traffic control arrival procedures and to facilitate transition between en route and instrument approach operations. Each STAR procedure is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.

h. Airport Taxi Charts– Designed to expedite the efficient and safe flow of ground traffic at an airport. These charts are identified by the official airport name; e.g., Ronald Reagan Washington National Airport.

(See ICAO term AERONAUTICAL CHART.)

AERONAUTICAL CHART [ICAO]– A representation of a portion of the earth, its culture and relief, specifically designated to meet the requirements of air navigation.

AERONAUTICAL INFORMATION MANUAL (AIM)– A primary FAA publication whose purpose is to instruct airmen about operating in the National Airspace System of the U.S. It provides basic flight information, ATC Procedures and general instructional information concerning health, medical facts, factors affecting flight safety, accident and hazard reporting, and types of aeronautical charts and their use.

AERONAUTICAL INFORMATION PUBLICATION (AIP) [ICAO]– A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

(See CHART SUPPLEMENT.)

AERONAUTICAL INFORMATION SERVICES (AIS)– A facility in Silver Spring, MD, established by FAA to operate a central aeronautical information service for the collection, validation, and dissemination of

orderly, and expeditious flow of traffic while minimizing delays. The following functions are located at the ATCSCC:

a. Central Altitude Reservation Function (CARF). Responsible for coordinating, planning, and approving special user requirements under the Altitude Reservation (ALTRV) concept.

(See ALTITUDE RESERVATION.)

b. Airport Reservation Office (ARO). Monitors the operation and allocation of reservations for unscheduled operations at airports designated by the Administrator as High Density Airports. These airports are generally known as slot controlled airports. The ARO allocates reservations on a first come, first served basis determined by the time the request is received at the ARO.

(Refer to 14 CFR Part 93.)

(See CHART SUPPLEMENT.)

c. U.S. Notice to Air Missions (NOTAM) Office. Responsible for collecting, maintaining, and distributing NOTAMs for the U.S. civilian and military, as well as international aviation communities.

(See NOTICE TO AIR MISSIONS.)

d. Weather Unit. Monitor all aspects of weather for the U.S. that might affect aviation including cloud cover, visibility, winds, precipitation, thunderstorms, icing, turbulence, and more. Provide forecasts based on observations and on discussions with meteorologists from various National Weather Service offices, FAA facilities, airlines, and private weather services.

e. Air Traffic Organization (ATO) Space Operations and Unmanned Aircraft System (UAS); the Office of Primary Responsibility (OPR) for all space and upper class E tactical operations in the National Airspace System (NAS).

AIR TRAFFIC SERVICE– A generic term meaning:

- a.** Flight Information Service.
- b.** Alerting Service.
- c.** Air Traffic Advisory Service.
- d.** Air Traffic Control Service:
 - 1.** Area Control Service,
 - 2.** Approach Control Service, or
 - 3.** Airport Control Service.

AIR TRAFFIC ORGANIZATION (ATO) – The FAA line of business responsible for providing safe and efficient air navigation services in the national airspace system.

AIR TRAFFIC SERVICE (ATS) ROUTES – The term “ATS Route” is a generic term that includes “VOR Federal airways,” “colored Federal airways,” “jet routes,” and “RNAV routes.” The term “ATS route” does not replace these more familiar route names, but serves only as an overall title when listing the types of routes that comprise the United States route structure.

AIRBORNE– An aircraft is considered airborne when all parts of the aircraft are off the ground.

AIRBORNE DELAY– Amount of delay to be encountered in airborne holding.

AIRBORNE REROUTE (ABRR)– A capability within the Traffic Flow Management System used for the timely development and implementation of tactical reroutes for airborne aircraft. This capability defines a set of aircraft-specific reroutes that address a certain traffic flow problem and then electronically transmits them to En Route Automation Modernization (ERAM) for execution by the appropriate sector controllers.

AIRCRAFT– Device(s) that are used or intended to be used for flight in the air, and when used in air traffic control terminology, may include the flight crew.

(See ICAO term AIRCRAFT.)

AIRCRAFT [ICAO]– Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth’s surface.

AIRCRAFT APPROACH CATEGORY– A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight. An aircraft must fit in only one category. If it is necessary to maneuver at speeds in excess of the upper limit of a speed range for a category, the minimums for the category for that speed must be used. For example, an aircraft which falls in Category A, but is circling to land at a speed in excess of 91 knots, must use the approach Category B minimums when circling to land. The categories are as follows:

- a. Category A– Speed less than 91 knots.
 - b. Category B– Speed 91 knots or more but less than 121 knots.
 - c. Category C– Speed 121 knots or more but less than 141 knots.
 - d. Category D– Speed 141 knots or more but less than 166 knots.
 - e. Category E– Speed 166 knots or more.
- (Refer to 14 CFR Part 97.)

AIRCRAFT CLASSES– For the purposes of Wake Turbulence Separation Minima, ATC classifies aircraft as Super, Heavy, Large, and Small as follows:

- a. Super. The Airbus A-380-800 (A388) and the Antonov An-225 (A225) are classified as super.
 - b. Heavy– Aircraft capable of takeoff weights of 300,000 pounds or more whether or not they are operating at this weight during a particular phase of flight.
 - c. Large– Aircraft of more than 41,000 pounds, maximum certificated takeoff weight, up to but not including 300,000 pounds.
 - d. Small– Aircraft of 41,000 pounds or less maximum certificated takeoff weight.
- (Refer to AIM.)

AIRCRAFT CONFLICT– Predicted conflict, within EDST of two aircraft, or between aircraft and airspace. A Red alert is used for conflicts when the predicted minimum separation is 5 nautical miles or less. A Yellow alert is used when the predicted minimum separation is between 5 and approximately 12 nautical miles. A Blue alert is used for conflicts between an aircraft and predefined airspace.

(See EN ROUTE DECISION SUPPORT TOOL.)

AIRCRAFT LIST (ACL)– A view available with EDST that lists aircraft currently in or predicted to be in a particular sector's airspace. The view contains textual flight data information in line format and may be sorted into various orders based on the specific needs of the sector team.

(See EN ROUTE DECISION SUPPORT TOOL.)

AIRCRAFT SURGE LAUNCH AND RECOVERY– Procedures used at USAF bases to provide increased launch and recovery rates in instrument flight rules conditions. ASLAR is based on:

- a. Reduced separation between aircraft which is based on time or distance. Standard arrival separation applies between participants including multiple flights until the DRAG point. The DRAG point is a published location on an ASLAR approach where aircraft landing second in a formation slows to a predetermined airspeed. The DRAG point is the reference point at which MARSAs applies as expanding elements effect separation within a flight or between subsequent participating flights.

- b. ASLAR procedures shall be covered in a Letter of Agreement between the responsible USAF military ATC facility and the concerned Federal Aviation Administration facility. Initial Approach Fix spacing requirements are normally addressed as a minimum.

AIRCRAFT HAZARD AREA (AHA)– Used by ATC to segregate air traffic from a launch vehicle, reentry vehicle, amateur rocket, jettisoned stages, hardware, or falling debris generated by failures associated with any of these activities. An AHA is designated via NOTAM as either a TFR or stationary ALTRV. Unless otherwise specified, the vertical limits of an AHA are from the surface to unlimited.

(See CONTINGENCY HAZARD AREA.)

(See REFINED HAZARD AREA.)

(See TRANSITIONAL HAZARD AREA.)

AIRPORT RESERVATION OFFICE– Office responsible for monitoring the operation of slot controlled airports. It receives and processes requests for unscheduled operations at slot controlled airports.

AIRPORT ROTATING BEACON– A visual NAVAID operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport. At military airports, the beacons flash alternately white and green, but are differentiated from civil beacons by dualpeaked (two quick) white flashes between the green flashes.

(See INSTRUMENT FLIGHT RULES.)

(See SPECIAL VFR OPERATIONS.)

(See ICAO term AERODROME BEACON.)

(Refer to AIM.)

AIRPORT SURFACE DETECTION EQUIPMENT (ASDE)– Surveillance equipment specifically designed to detect aircraft, vehicular traffic, and other objects, on the surface of an airport, and to present the image on a tower display. Used to augment visual observation by tower personnel of aircraft and/or vehicular movements on runways and taxiways. There are three ASDE systems deployed in the NAS:

a. **ASDE-3**– a Surface Movement Radar.

b. **ASDE-X**– a system that uses an X-band Surface Movement Radar, multilateration, and ADS-B.

c. **Airport Surface Surveillance Capability (ASSC)**– A system that uses Surface Movement Radar, multilateration, and ADS-B.

AIRPORT SURVEILLANCE RADAR– Approach control radar used to detect and display an aircraft’s position in the terminal area. ASR provides range and azimuth information but does not provide elevation data. Coverage of the ASR can extend up to 60 miles.

AIRPORT TAXI CHARTS–

(See AERONAUTICAL CHART.)

AIRPORT TRAFFIC CONTROL SERVICE– A service provided by a control tower for aircraft operating on the movement area and in the vicinity of an airport.

(See MOVEMENT AREA.)

(See TOWER.)

(See ICAO term AERODROME CONTROL SERVICE.)

AIRPORT TRAFFIC CONTROL TOWER–

(See TOWER.)

AIRSPACE CONFLICT– Predicted conflict of an aircraft and active Special Activity Airspace (SAA).

AIRSPACE FLOW PROGRAM (AFP)– AFP is a Traffic Management (TM) process administered by the Air Traffic Control System Command Center (ATCSCC) where aircraft are assigned an Expect Departure Clearance Time (EDCT) in order to manage capacity and demand for a specific area of the National Airspace System (NAS). The purpose of the program is to mitigate the effects of en route constraints. It is a flexible program and may be implemented in various forms depending upon the needs of the air traffic system.

AIRSPACE HIERARCHY– Within the airspace classes, there is a hierarchy and, in the event of an overlap of airspace: Class A preempts Class B, Class B preempts Class C, Class C preempts Class D, Class D preempts Class E, and Class E preempts Class G.

AIRSPEED– The speed of an aircraft relative to its surrounding air mass. The unqualified term “airspeed” means one of the following:

a. **Indicated Airspeed**– The speed shown on the aircraft airspeed indicator. This is the speed used in pilot/controller communications under the general term “airspeed.”

(Refer to 14 CFR Part 1.)

b. **True Airspeed**– The airspeed of an aircraft relative to undisturbed air. Used primarily in flight planning and en route portion of flight. When used in pilot/controller communications, it is referred to as “true airspeed” and not shortened to “airspeed.”

AIRSPACE RESERVATION– The term used in oceanic ATC for airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. Airspace reservations must be classified as either “moving” or “stationary.”

(See MOVING AIRSPACE RESERVATION)

(See STATIONARY AIRSPACE RESERVATION.)

(See ALTITUDE RESERVATION.)

AIRSTART– The starting of an aircraft engine while the aircraft is airborne, preceded by engine shutdown during training flights or by actual engine failure.

AIRWAY– A Class E airspace area established in the form of a corridor, the centerline of which is defined by radio navigational aids.

(See FEDERAL AIRWAYS.)

(See ICAO term AIRWAY.)

(Refer to 14 CFR Part 71.)

(Refer to AIM.)

AIRWAY [ICAO]– A control area or portion thereof established in the form of corridor equipped with radio navigational aids.

AIRWAY BEACON– Used to mark airway segments in remote mountain areas. The light flashes Morse Code to identify the beacon site.

(Refer to AIM.)

AIS–

(See AERONAUTICAL INFORMATION SERVICES.)

AIT–

(See AUTOMATED INFORMATION TRANSFER.)

ALERFA (Alert Phase) [ICAO]– A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

ALERT– A notification to a position that there is an aircraft-to-aircraft or aircraft-to-airspace conflict, as detected by Automated Problem Detection (APD).

ALERT AREA–

(See SPECIAL USE AIRSPACE.)

ALERT NOTICE (ALNOT)– A request originated by a flight service station (FSS) or an air route traffic control center (ARTCC) for an extensive communication search for overdue, unreported, or missing aircraft.

ALERTING SERVICE– A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid and assist such organizations as required.

ALNOT–

(See ALERT NOTICE.)

ALONG-TRACK DISTANCE (ATD)– The horizontal distance between the aircraft’s current position and a fix measured by an area navigation system that is not subject to slant range errors.

ALPHANUMERIC DISPLAY– Letters and numerals used to show identification, altitude, beacon code, and other information concerning a target on a radar display.

ALTERNATE AERODROME [ICAO]– An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing.

Note: The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for the flight.

ALTERNATE AIRPORT– An airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

(See ICAO term ALTERNATE AERODROME.)

ALTIMETER SETTING– The barometric pressure reading used to adjust a pressure altimeter for variations in existing atmospheric pressure or to the standard altimeter setting (29.92).

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

ALTITUDE– The height of a level, point, or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL).

(See FLIGHT LEVEL.)

a. MSL Altitude– Altitude expressed in feet measured from mean sea level.

b. AGL Altitude– Altitude expressed in feet measured above ground level.

c. Indicated Altitude– The altitude as shown by an altimeter. On a pressure or barometric altimeter it is altitude as shown uncorrected for instrument error and uncompensated for variation from standard atmospheric conditions.

(See ICAO term ALTITUDE.)

ALTITUDE [ICAO]– The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).

ALTITUDE READOUT– An aircraft’s altitude, transmitted via the Mode C transponder feature, that is visually displayed in 100-foot increments on a radar scope having readout capability.

(See ALPHANUMERIC DISPLAY.)

(Refer to AIM.)

ALTITUDE RESERVATION (ALTRV)– Airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. ALTRVs are approved by the appropriate FAA facility. ALTRVs must be classified as either “moving” or “stationary.”

(See MOVING ALTITUDE RESERVATION.)

(See STATIONARY ALTITUDE RESERVATION.)

(See AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER.)

ALTITUDE RESTRICTION– An altitude or altitudes, stated in the order flown, which are to be maintained until reaching a specific point or time. Altitude restrictions may be issued by ATC due to traffic, terrain, or other airspace considerations.

ALTITUDE RESTRICTIONS ARE CANCELED– Adherence to previously imposed altitude restrictions is no longer required during a climb or descent.

ALTRV–

(See ALTITUDE RESERVATION.)

AMVER–

(See AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM.)

APB–

(See AUTOMATED PROBLEM DETECTION BOUNDARY.)

APD–

(See AUTOMATED PROBLEM DETECTION.)

APDIA–

(See AUTOMATED PROBLEM DETECTION INHIBITED AREA.)

APPROACH CLEARANCE– Authorization by ATC for a pilot to conduct an instrument approach. The type of instrument approach for which a clearance and other pertinent information is provided in the approach clearance when required.

(See CLEARED APPROACH.)

(See INSTRUMENT APPROACH PROCEDURE.)

(Refer to AIM.)

(Refer to 14 CFR Part 91.)

APPROACH CONTROL FACILITY– A terminal ATC facility that provides approach control service in a terminal area.

(See **APPROACH CONTROL SERVICE**.)

(See **RADAR APPROACH CONTROL FACILITY**.)

APPROACH CONTROL SERVICE– Air traffic control service provided by an approach control facility for arriving and departing VFR/IFR aircraft and, on occasion, en route aircraft. At some airports not served by an approach control facility, the ARTCC provides limited approach control service.

(See ICAO term **APPROACH CONTROL SERVICE**.)

(Refer to AIM.)

APPROACH CONTROL SERVICE [ICAO]– Air traffic control service for arriving or departing controlled flights.

APPROACH GATE– An imaginary point used within ATC as a basis for vectoring aircraft to the final approach course. The gate will be established along the final approach course 1 mile from the final approach fix on the side away from the airport and will be no closer than 5 miles from the landing threshold.

APPROACH/DEPARTURE HOLD AREA– The locations on taxiways in the approach or departure areas of a runway designated to protect landing or departing aircraft. These locations are identified by signs and markings.

APPROACH LIGHT SYSTEM–

(See **AIRPORT LIGHTING**.)

APPROACH SEQUENCE– The order in which aircraft are positioned while on approach or awaiting approach clearance.

(See **LANDING SEQUENCE**.)

(See ICAO term **APPROACH SEQUENCE**.)

APPROACH SEQUENCE [ICAO]– The order in which two or more aircraft are cleared to approach to land at the aerodrome.

APPROACH SPEED– The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration.

APPROACH WITH VERTICAL GUIDANCE (APV)– A term used to describe RNAV approach procedures that provide lateral and vertical guidance but do not meet the requirements to be considered a precision approach.

APPROPRIATE ATS AUTHORITY [ICAO]– The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned. In the United States, the “appropriate ATS authority” is the Program Director for Air Traffic Planning and Procedures, ATP-1.

APPROPRIATE AUTHORITY–

- a. Regarding flight over the high seas: the relevant authority is the State of Registry.
- b. Regarding flight over other than the high seas: the relevant authority is the State having sovereignty over the territory being overflown.

APPROPRIATE OBSTACLE CLEARANCE MINIMUM ALTITUDE– Any of the following:

(See **MINIMUM EN ROUTE IFR ALTITUDE**.)

(See **MINIMUM IFR ALTITUDE**.)

(See **MINIMUM OBSTRUCTION CLEARANCE ALTITUDE**.)

(See **MINIMUM VECTORING ALTITUDE**.)

APPROPRIATE TERRAIN CLEARANCE MINIMUM ALTITUDE– Any of the following:

(See **MINIMUM EN ROUTE IFR ALTITUDE**.)

(See **MINIMUM IFR ALTITUDE**.)

(See **MINIMUM OBSTRUCTION CLEARANCE ALTITUDE**.)

(See **MINIMUM VECTORING ALTITUDE**.)

APRON– A defined area on an airport or heliport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. With regard to seaplanes, a ramp is used for access to the apron from the water.

(See ICAO term APRON.)

APRON [ICAO]– A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, refueling, parking or maintenance.

ARC– The track over the ground of an aircraft flying at a constant distance from a navigational aid by reference to distance measuring equipment (DME).

AREA CONTROL CENTER [ICAO]– An air traffic control facility primarily responsible for ATC services being provided IFR aircraft during the en route phase of flight. The U.S. equivalent facility is an air route traffic control center (ARTCC).

AREA NAVIGATION (RNAV)– A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground– or space–based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

Note: Area navigation includes performance–based navigation as well as other operations that do not meet the definition of performance–based navigation.

AREA NAVIGATION (RNAV) APPROACH CONFIGURATION:

a. STANDARD T– An RNAV approach whose design allows direct flight to any one of three initial approach fixes (IAF) and eliminates the need for procedure turns. The standard design is to align the procedure on the extended centerline with the missed approach point (MAP) at the runway threshold, the final approach fix (FAF), and the initial approach/intermediate fix (IAF/IF). The other two IAFs will be established perpendicular to the IF.

b. MODIFIED T– An RNAV approach design for single or multiple runways where terrain or operational constraints do not allow for the standard T. The “T” may be modified by increasing or decreasing the angle from the corner IAF(s) to the IF or by eliminating one or both corner IAFs.

c. STANDARD I– An RNAV approach design for a single runway with both corner IAFs eliminated. Course reversal or radar vectoring may be required at busy terminals with multiple runways.

d. TERMINAL ARRIVAL AREA (TAA)– The TAA is controlled airspace established in conjunction with the Standard or Modified T and I RNAV approach configurations. In the standard TAA, there are three areas: straight-in, left base, and right base. The arc boundaries of the three areas of the TAA are published portions of the approach and allow aircraft to transition from the en route structure direct to the nearest IAF. TAAs will also eliminate or reduce feeder routes, departure extensions, and procedure turns or course reversal.

1. STRAIGHT-IN AREA– A 30 NM arc centered on the IF bounded by a straight line extending through the IF perpendicular to the intermediate course.

2. LEFT BASE AREA– A 30 NM arc centered on the right corner IAF. The area shares a boundary with the straight-in area except that it extends out for 30 NM from the IAF and is bounded on the other side by a line extending from the IF through the FAF to the arc.

3. RIGHT BASE AREA– A 30 NM arc centered on the left corner IAF. The area shares a boundary with the straight-in area except that it extends out for 30 NM from the IAF and is bounded on the other side by a line extending from the IF through the FAF to the arc.

AREA NAVIGATION (RNAV) GLOBAL POSITIONING SYSTEM (GPS) PRECISION RUNWAY MONITORING (PRM) APPROACH–

A GPS approach, which requires vertical guidance, used in lieu of another type of PRM approach to conduct approaches to parallel runways whose extended centerlines are separated by less than 4,300 feet and at least 3,000 feet, where simultaneous close parallel approaches are permitted. Also used in lieu of an ILS PRM and/or LDA PRM approach to conduct Simultaneous Offset Instrument Approach (SOIA) operations.

ARMY AVIATION FLIGHT INFORMATION BULLETIN– A bulletin that provides air operation data covering Army, National Guard, and Army Reserve aviation activities.

ARO–

(See AIRPORT RESERVATION OFFICE.)

ARRESTING SYSTEM– A safety device consisting of two major components, namely, engaging or catching devices and energy absorption devices for the purpose of arresting both tailhook and/or nontailhook-equipped aircraft. It is used to prevent aircraft from overrunning runways when the aircraft cannot be stopped after landing or during aborted takeoff. Arresting systems have various names; e.g., arresting gear, hook device, wire barrier cable.

(See ABORT.)

(Refer to AIM.)

ARRIVAL CENTER– The ARTCC having jurisdiction for the impacted airport.

ARRIVAL DELAY– A parameter which specifies a period of time in which no aircraft will be metered for arrival at the specified airport.

ARRIVAL/DEPARTURE WINDOW (ADW)– A depiction presented on an air traffic control display, used by the controller to prevent possible conflicts between arrivals to, and departures from, a runway. The ADW identifies that point on the final approach course by which a departing aircraft must have begun takeoff.

ARRIVAL SECTOR (En Route)– An operational control sector containing one or more meter fixes on or near the TRACON boundary.

ARRIVAL TIME– The time an aircraft touches down on arrival.

ARSR–

(See AIR ROUTE SURVEILLANCE RADAR.)

ARTCC–

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

ASDA–

(See ACCELERATE-STOP DISTANCE AVAILABLE.)

ASDA [ICAO]–

(See ICAO Term ACCELERATE-STOP DISTANCE AVAILABLE.)

ASDE–

(See AIRPORT SURFACE DETECTION EQUIPMENT.)

ASLAR–

(See AIRCRAFT SURGE LAUNCH AND RECOVERY.)

ASR–

(See AIRPORT SURVEILLANCE RADAR.)

ASR APPROACH–

(See SURVEILLANCE APPROACH.)

ASSOCIATED– A radar target displaying a data block with flight identification and altitude information.

(See UNASSOCIATED.)

ATC–

(See AIR TRAFFIC CONTROL.)

ATC ADVISES– Used to prefix a message of noncontrol information when it is relayed to an aircraft by other than an air traffic controller.

(See ADVISORY.)

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

(See SPECIAL USE AIRSPACE.)

ATC CLEARANCE–

(See AIR TRAFFIC CLEARANCE.)

ATC CLEARS– Used to prefix an ATC clearance when it is relayed to an aircraft by other than an air traffic controller.

ATC INSTRUCTIONS– Directives issued by air traffic control for the purpose of requiring a pilot to take specific actions; e.g., “Turn left heading two five zero,” “Go around,” “Clear the runway.”

(Refer to 14 CFR Part 91.)

ATC PREFERRED ROUTE NOTIFICATION– EDST notification to the appropriate controller of the need to determine if an ATC preferred route needs to be applied, based on destination airport.

(See ROUTE ACTION NOTIFICATION.)

(See EN ROUTE DECISION SUPPORT TOOL.)

ATC PREFERRED ROUTES– Preferred routes that are not automatically applied by Host.

ATC REQUESTS– Used to prefix an ATC request when it is relayed to an aircraft by other than an air traffic controller.

ATC SECURITY SERVICES– Communications and security tracking provided by an ATC facility in support of the DHS, the DoD, or other Federal security elements in the interest of national security. Such security services are only applicable within designated areas. ATC security services do not include ATC basic radar services or flight following.

ATC SECURITY SERVICES POSITION– The position responsible for providing ATC security services as defined. This position does not provide ATC, IFR separation, or VFR flight following services, but is responsible for providing security services in an area comprising airspace assigned to one or more ATC operating sectors. This position may be combined with control positions.

ATC SECURITY TRACKING– The continuous tracking of aircraft movement by an ATC facility in support of the DHS, the DoD, or other security elements for national security using radar (i.e., radar tracking) or other means (e.g., manual tracking) without providing basic radar services (including traffic advisories) or other ATC services not defined in this section.

ATS SURVEILLANCE SERVICE [ICAO]– A term used to indicate a service provided directly by means of an ATS surveillance system.

ATC SURVEILLANCE SOURCE– Used by ATC for establishing identification, control and separation using a target depicted on an air traffic control facility’s video display that has met the relevant safety standards for operational use and received from one, or a combination, of the following surveillance sources:

- a. Radar (See RADAR.)
 - b. ADS-B (See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST.)
 - c. WAM (See WIDE AREA MULTILATERATION.)
- (See INTERROGATOR.)
(See TRANSPONDER.)
(See ICAO term RADAR.)
(Refer to AIM.)

ATS SURVEILLANCE SYSTEM [ICAO]– A generic term meaning variously, ADS–B, PSR, SSR or any comparable ground–based system that enables the identification of aircraft.

Note: A comparable ground–based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monopulse SSR.

ATCAA–

(See ATC ASSIGNED AIRSPACE.)

ATCRBS–

(See RADAR.)

ATCSCC–

(See AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER.)

ATCT–

(See TOWER.)

ATD–

(See ALONG–TRACK DISTANCE.)

ATIS–

(See AUTOMATIC TERMINAL INFORMATION SERVICE.)

ATIS [ICAO]–

(See ICAO Term AUTOMATIC TERMINAL INFORMATION SERVICE.)

ATO–

(See AIR TRAFFIC ORGANIZATION.)

ATPA–

(See AUTOMATED TERMINAL PROXIMITY ALERT.)

ATS ROUTE [ICAO]– A specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services.

Note: The term “ATS Route” is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure, etc.

ATTENTION ALL USERS PAGE (AAUP)– The AAUP provides the pilot with additional information relative to conducting a specific operation, for example, PRM approaches and RNAV departures.

AUTOLAND APPROACH–An autoland system aids by providing control of aircraft systems during a precision instrument approach to at least decision altitude and possibly all the way to touchdown, as well as in some cases, through the landing rollout. The autoland system is a sub-system of the autopilot system from which control surface management occurs. The aircraft autopilot sends instructions to the autoland system and monitors the autoland system performance and integrity during its execution.

AUTOMATED EMERGENCY DESCENT–

(See EMERGENCY DESCENT MODE.)

AUTOMATED INFORMATION TRANSFER (AIT)– A precoordinated process, specifically defined in facility directives, during which a transfer of altitude control and/or radar identification is accomplished without verbal coordination between controllers using information communicated in a full data block.

AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM– A facility which can deliver, in a matter of minutes, a surface picture (SURPIC) of vessels in the area of a potential or actual search and rescue incident, including their predicted positions and their characteristics.

(See FAA Order JO 7110.65, Para 10–6–4, INFLIGHT CONTINGENCIES.)

AUTOMATED PROBLEM DETECTION (APD)– An Automation Processing capability that compares trajectories in order to predict conflicts.

AUTOMATED PROBLEM DETECTION BOUNDARY (APB)– The adapted distance beyond a facilities boundary defining the airspace within which EDST performs conflict detection.

(See EN ROUTE DECISION SUPPORT TOOL.)

AUTOMATED PROBLEM DETECTION INHIBITED AREA (APDIA)– Airspace surrounding a terminal area within which APD is inhibited for all flights within that airspace.

AUTOMATED SERVICES–Services delivered via an automated system (that is, without human interaction). For example, flight plans, Notices to Air Missions (NOTAM), interactive maps, computer-generated text-to-speech messages, short message service, or email.

AUTOMATED TERMINAL PROXIMITY ALERT (ATPA)– Monitors the separation of aircraft on the Final Approach Course (FAC), displaying a graphical notification (cone and/or mileage) when a potential loss of separation is detected. The warning cone (Yellow) will display at 45 seconds and the alert cone (Red) will display at 24 seconds prior to predicted loss of separation. Current distance between two aircraft on final will be displayed in line 3 of the full data block of the trailing aircraft in corresponding colors.

AUTOMATED WEATHER SYSTEM– Any of the automated weather sensor platforms that collect weather data at airports and disseminate the weather information via radio and/or landline. The systems currently consist of the Automated Surface Observing System (ASOS) and Automated Weather Observation System (AWOS).

AUTOMATED UNICOM– Provides completely automated weather, radio check capability and airport advisory information on an Automated UNICOM system. These systems offer a variety of features, typically selectable by microphone clicks, on the UNICOM frequency. Availability will be published in the Chart Supplement and approach charts.

AUTOMATIC ALTITUDE REPORT–
(See ALTITUDE READOUT.)

AUTOMATIC ALTITUDE REPORTING– That function of a transponder which responds to Mode C interrogations by transmitting the aircraft's altitude in 100-foot increments.

AUTOMATIC CARRIER LANDING SYSTEM– U.S. Navy final approach equipment consisting of precision tracking radar coupled to a computer data link to provide continuous information to the aircraft, monitoring capability to the pilot, and a backup approach system.

AUTOMATIC DEPENDENT SURVEILLANCE (ADS) [ICAO]– A surveillance technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position fixing systems, including aircraft identification, four dimensional position and additional data as appropriate.

AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST (ADS-B)– A surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter. The aircraft or vehicle periodically broadcasts its GNSS-derived position and other required information such as identity and velocity, which is then received by a ground-based or space-based receiver for processing and display at an air traffic control facility, as well as by suitably equipped aircraft.

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST IN.)

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST OUT.)

(See COOPERATIVE SURVEILLANCE.)

(See GLOBAL POSITIONING SYSTEM.)

(See SPACE–BASED ADS–B.)

AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST IN (ADS–B In)– Aircraft avionics capable of receiving ADS–B Out transmissions directly from other aircraft, as well as traffic or weather information transmitted from ground stations.

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST OUT.)

(See AUTOMATIC DEPENDENT SURVEILLANCE–REBROADCAST.)

(See FLIGHT INFORMATION SERVICE–BROADCAST.)

(See TRAFFIC INFORMATION SERVICE–BROADCAST.)

AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST OUT (ADS–B Out)– The transmitter onboard an aircraft or ground vehicle that periodically broadcasts its GNSS-derived position along with other required information, such as identity, altitude, and velocity.

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST.)

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST IN.)

AUTOMATIC DEPENDENT SURVEILLANCE–CONTRACT (ADS–C)– A data link position reporting system, controlled by a ground station, that establishes contracts with an aircraft's avionics that occur automatically whenever specific events occur, or specific time intervals are reached.

AUTOMATIC DEPENDENT SURVEILLANCE- REBROADCAST (ADS-R)– A datalink translation function of the ADS-B ground system required to accommodate the two separate operating frequencies (978 MHz and 1090 MHz). The ADS-B system receives the ADS-B messages transmitted on one frequency and ADS-R translates and reformats the information for rebroadcast and use on the other frequency. This allows ADS-B In equipped aircraft to see nearby ADS-B Out traffic regardless of the operating link of the other aircraft. Aircraft operating on the same ADS-B frequency exchange information directly and do not require the ADS-R translation function.

AUTOMATIC DIRECTION FINDER– An aircraft radio navigation system which senses and indicates the direction to a L/MF nondirectional radio beacon (NDB) ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft depending on the type of indicator installed in the aircraft. In certain applications, such as military, ADF operations may be based on airborne and ground transmitters in the VHF/UHF frequency spectrum.

(See BEARING.)

(See NONDIRECTIONAL BEACON.)

AUTOMATIC FLIGHT INFORMATION SERVICE (AFIS) – ALASKA FSSs ONLY– The continuous broadcast of recorded non-control information at airports in Alaska where a FSS provides local airport advisory service. The AFIS broadcast automates the repetitive transmission of essential but routine information such as weather, wind, altimeter, favored runway, braking action, airport NOTAMs, and other applicable information. The information is continuously broadcast over a discrete VHF radio frequency (usually the ASOS/AWOS frequency).

AUTOMATIC TERMINAL INFORMATION SERVICE– The continuous broadcast of recorded noncontrol information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information; e.g., “Los Angeles information Alfa. One three zero zero Coordinated Universal Time. Weather, measured ceiling two thousand overcast, visibility three, haze, smoke, temperature seven one, dew point five seven, wind two five zero at five, altimeter two niner niner six. I-L-S Runway Two Five Left approach in use, Runway Two Five Right closed, advise you have Alfa.”

(See ICAO term AUTOMATIC TERMINAL INFORMATION SERVICE.)

(Refer to AIM.)

AUTOMATIC TERMINAL INFORMATION SERVICE [ICAO]– The provision of current, routine information to arriving and departing aircraft by means of continuous and repetitive broadcasts throughout the day or a specified portion of the day.

AUTOROTATION– A rotorcraft flight condition in which the lifting rotor is driven entirely by action of the air when the rotorcraft is in motion.

a. Autorotative Landing/Touchdown Autorotation. Used by a pilot to indicate that the landing will be made without applying power to the rotor.

b. Low Level Autorotation. Commences at an altitude well below the traffic pattern, usually below 100 feet AGL and is used primarily for tactical military training.

c. 180 degrees Autorotation. Initiated from a downwind heading and is commenced well inside the normal traffic pattern. “Go around” may not be possible during the latter part of this maneuver.

AVAILABLE LANDING DISTANCE (ALD)– The portion of a runway available for landing and roll-out for aircraft cleared for LAHSO. This distance is measured from the landing threshold to the hold-short point.

AVIATION WATCH NOTIFICATION MESSAGE– The Storm Prediction Center (SPC) issues Aviation Watch Notification Messages (SAW) to provide an area threat alert for the aviation meteorology community to forecast organized severe thunderstorms that may produce tornadoes, large hail, and/or convective damaging winds as indicated in Public Watch Notification Messages within the Continental U.S. A SAW message provides a description of the type of watch issued by SPC, a valid time, an approximation of the area in a watch, and primary hazard(s).

AVIATION WEATHER SERVICE– A service provided by the National Weather Service (NWS) and FAA which collects and disseminates pertinent weather information for pilots, aircraft operators, and ATC. Available aviation weather reports and forecasts are displayed at each NWS office and FAA FSS.

(See TRANSCRIBED WEATHER BROADCAST.)

(See WEATHER ADVISORY.)

(Refer to AIM.)

C

CALCULATED LANDING TIME– A term that may be used in place of tentative or actual calculated landing time, whichever applies.

CALIBRATED AIRSPEED (CAS) – The indicated airspeed of an aircraft, corrected for position and instrument error. Calibrated airspeed is equal to true airspeed in standard atmosphere at sea level.

CALL FOR RELEASE– Wherein the overlying ARTCC requires a terminal facility to initiate verbal coordination to secure ARTCC approval for release of a departure into the en route environment.

CALL UP– Initial voice contact between a facility and an aircraft, using the identification of the unit being called and the unit initiating the call.

(Refer to AIM.)

CANADIAN MINIMUM NAVIGATION PERFORMANCE SPECIFICATION AIRSPACE– That portion of Canadian domestic airspace within which MNPS separation may be applied.

CARDINAL ALTITUDES– “Odd” or “Even” thousand-foot altitudes or flight levels; e.g., 5,000, 6,000, 7,000, FL 250, FL 260, FL 270.

(See ALTITUDE.)

(See FLIGHT LEVEL.)

CARDINAL FLIGHT LEVELS–

(See CARDINAL ALTITUDES.)

CAT–

(See CLEAR-AIR TURBULENCE.)

CATCH POINT– A fix/waypoint that serves as a transition point from the high altitude waypoint navigation structure to an arrival procedure (STAR) or the low altitude ground-based navigation structure.

CBO–

(See COMMUNITY-BASED ORGANIZATION.)

CEILING– The heights above the earth’s surface of the lowest layer of clouds or obscuring phenomena that is reported as “broken,” “overcast,” or “obscuration,” and not classified as “thin” or “partial.”

(See ICAO term CEILING.)

CEILING [ICAO]– The height above the ground or water of the base of the lowest layer of cloud below 6,000 meters (20,000 feet) covering more than half the sky.

CENTER–

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

CENTER’S AREA– The specified airspace within which an air route traffic control center (ARTCC) provides air traffic control and advisory service.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(Refer to AIM.)

CENTER WEATHER ADVISORY– An unscheduled weather advisory issued by Center Weather Service Unit meteorologists for ATC use to alert pilots of existing or anticipated adverse weather conditions within the next 2 hours. A CWA may modify or redefine a SIGMET.

(See AIRMET.)

(See CONVECTIVE SIGMET.)

(See GRAPHICAL AIRMEN’S METEOROLOGICAL INFORMATION.)

(See SAW.)

(See SIGMET.)

(Refer to AIM.)

CENTRAL EAST PACIFIC– An organized route system between the U.S. West Coast and Hawaii.

CEP–

(See **CENTRAL EAST PACIFIC**.)

CERAP–

(See **COMBINED CENTER-RAPCON**.)

CERTIFICATE OF WAIVER OR AUTHORIZATION (COA)– An FAA grant of approval for a specific flight operation or airspace authorization or waiver.

CERTIFIED TOWER RADAR DISPLAY (CTRD)– An FAA radar display certified for use in the NAS.

CFR–

(See **CALL FOR RELEASE**.)

CHA

(See **CONTINGENCY HAZARD AREA**)

CHAFF– Thin, narrow metallic reflectors of various lengths and frequency responses, used to reflect radar energy. These reflectors, when dropped from aircraft and allowed to drift downward, result in large targets on the radar display.

CHART SUPPLEMENT– A series of civil/military flight information publications issued by FAA every 56 days consisting of the Chart Supplement U.S., Chart Supplement Alaska, and Chart Supplement Pacific.

CHART SUPPLEMENT ALASKA– A flight information publication designed for use with appropriate IFR or VFR charts which contains data on all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, airport diagrams, certain special notices, and non-regulatory procedures. Also included in this publication are selected entries needed to support the unique geographical operational conditions of Alaska. This publication is issued in one volume for the state of Alaska.

CHART SUPPLEMENT PACIFIC– A flight information publication designed for use with appropriate IFR or VFR charts which contains data on all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, airport diagrams, certain special notices, and non-regulatory procedures. Also included in this publication are Instrument Approach Procedures (IAP), Departure Procedures (DP), and Standard Terminal Arrival (STAR) charts, along with selected entries needed to support the unique geographical operational conditions of the Pacific Oceanic region. This publication is issued in one volume for the Hawaiian Islands and other selected Pacific Islands.

CHART SUPPLEMENT U.S.– A flight information publication designed for use with appropriate IFR or VFR charts which contains data on all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, airport diagrams, certain special notices, and non-regulatory procedures. This publication is issued for the conterminous U.S., Puerto Rico, and the Virgin Islands in seven volumes according to geographical area.

CHARTED VFR FLYWAYS– Charted VFR Flyways are flight paths recommended for use to bypass areas heavily traversed by large turbine-powered aircraft. Pilot compliance with recommended flyways and associated altitudes is strictly voluntary. VFR Flyway Planning charts are published on the back of existing VFR Terminal Area charts.

CHARTED VISUAL FLIGHT PROCEDURE APPROACH– An approach conducted while operating on an instrument flight rules (IFR) flight plan which authorizes the pilot of an aircraft to proceed visually and clear of clouds to the airport via visual landmarks and other information depicted on a charted visual flight procedure. This approach must be authorized and under the control of the appropriate air traffic control facility. Weather minimums required are depicted on the chart.

CHASE– An aircraft flown in proximity to another aircraft normally to observe its performance during training or testing.

CHASE AIRCRAFT–

(See CHASE.)

CHOP– A form of turbulence.

a. Light Chop– Turbulence that causes slight, rapid and somewhat rhythmic bumpiness without appreciable changes in altitude or attitude.

b. Moderate Chop– Turbulence similar to Light Chop but of greater intensity. It causes rapid bumps or jolts without appreciable changes in aircraft altitude or attitude.

(See TURBULENCE.)

CIRCLE-TO-LAND MANEUVER– A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable. At tower controlled airports, this maneuver is made only after ATC authorization has been obtained and the pilot has established required visual reference to the airport.

(See CIRCLE TO RUNWAY.)

(See LANDING MINIMUMS.)

(Refer to AIM.)

CIRCLE TO RUNWAY (RUNWAY NUMBER)– Used by ATC to inform the pilot that he/she must circle to land because the runway in use is other than the runway aligned with the instrument approach procedure. When the direction of the circling maneuver in relation to the airport/runway is required, the controller will state the direction (eight cardinal compass points) and specify a left or right downwind or base leg as appropriate; e.g., “Cleared VOR Runway Three Six Approach circle to Runway Two Two,” or “Circle northwest of the airport for a right downwind to Runway Two Two.”

(See CIRCLE-TO-LAND MANEUVER.)

(See LANDING MINIMUMS.)

(Refer to AIM.)

CIRCLING APPROACH–

(See CIRCLE-TO-LAND MANEUVER.)

CIRCLING MANEUVER–

(See CIRCLE-TO-LAND MANEUVER.)

CIRCLING MINIMA–

(See CONTROLLED AIRSPACE.)

CIVIL AIRCRAFT OPERATION (CAO)– Aircraft operations other than public use.

CLASS A AIRSPACE–

(See CONTROLLED AIRSPACE.)

CLASS B AIRSPACE–

(See CONTROLLED AIRSPACE.)

CLASS C AIRSPACE–

(See CONTROLLED AIRSPACE.)

CLASS D AIRSPACE–

(See CONTROLLED AIRSPACE.)

CLASS E AIRSPACE–

(See CONTROLLED AIRSPACE.)

CLASS G AIRSPACE– Airspace that is not designated in 14 CFR Part 71 as Class A, Class B, Class C, Class D, or Class E controlled airspace is Class G (uncontrolled) airspace.

(See UNCONTROLLED AIRSPACE.)

CLEAR AIR TURBULENCE (CAT)– Turbulence encountered in air where no clouds are present. This term is commonly applied to high-level turbulence associated with wind shear. CAT is often encountered in the vicinity of the jet stream.

(See WIND SHEAR.)

(See JET STREAM.)

CLEAR OF THE RUNWAY–

a. Taxiing aircraft, which is approaching a runway, is clear of the runway when all parts of the aircraft are held short of the applicable runway holding position marking.

b. A pilot or controller may consider an aircraft, which is exiting or crossing a runway, to be clear of the runway when all parts of the aircraft are beyond the runway edge and there are no restrictions to its continued movement beyond the applicable runway holding position marking.

c. Pilots and controllers shall exercise good judgment to ensure that adequate separation exists between all aircraft on runways and taxiways at airports with inadequate runway edge lines or holding position markings.

CLEARANCE–

(See AIR TRAFFIC CLEARANCE.)

CLEARANCE LIMIT– The fix, point, or location to which an aircraft is cleared when issued an air traffic clearance.

(See ICAO term CLEARANCE LIMIT.)

CLEARANCE LIMIT [ICAO]– The point to which an aircraft is granted an air traffic control clearance.

CLEARANCE VOID IF NOT OFF BY (TIME)– Used by ATC to advise an aircraft that the departure release is automatically canceled if takeoff is not made prior to a specified time. The expiration of a clearance void time does not cancel the departure clearance or IFR flight plan. It withdraws the pilot's authority to depart IFR until a new departure release/release time has been issued by ATC. Pilots who choose to depart VFR after their clearance void time has expired should not depart using the previously assigned IFR transponder code.

(See ICAO term CLEARANCE VOID TIME.)

CLEARANCE VOID TIME [ICAO]– A time specified by an air traffic control unit at which a clearance ceases to be valid unless the aircraft concerned has already taken action to comply therewith.

CLEARED APPROACH– ATC authorization for an aircraft to execute any standard or special instrument approach procedure for that airport. Normally, an aircraft will be cleared for a specific instrument approach procedure.

(See CLEARED (Type of) APPROACH.)

(See INSTRUMENT APPROACH PROCEDURE.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

CLEARED (Type of) APPROACH– ATC authorization for an aircraft to execute a specific instrument approach procedure to an airport; e.g., “Cleared ILS Runway Three Six Approach.”

(See APPROACH CLEARANCE.)

(See INSTRUMENT APPROACH PROCEDURE.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

CLEARED AS FILED– Means the aircraft is cleared to proceed in accordance with the route of flight filed in the flight plan. This clearance does not include the altitude, DP, or DP Transition.

(See REQUEST FULL ROUTE CLEARANCE.)

(Refer to AIM.)

CLEARED FOR TAKEOFF– ATC authorization for an aircraft to depart. It is predicated on known traffic and known physical airport conditions.

CLEARED FOR THE OPTION– ATC authorization for an aircraft to make a touch-and-go, low approach, missed approach, stop and go, or full stop landing at the discretion of the pilot. It is normally used in training so that an instructor can evaluate a student’s performance under changing situations. Pilots should advise ATC if they decide to remain on the runway, of any delay in their stop and go, delay clearing the runway, or are unable to comply with the instruction(s).

(See OPTION APPROACH.)

(Refer to AIM.)

CLEARED THROUGH– ATC authorization for an aircraft to make intermediate stops at specified airports without refiling a flight plan while en route to the clearance limit.

CLEARED TO LAND– ATC authorization for an aircraft to land. It is predicated on known traffic and known physical airport conditions.

CLEARWAY– An area beyond the takeoff runway under the control of airport authorities within which terrain or fixed obstacles may not extend above specified limits. These areas may be required for certain turbine-powered operations and the size and upward slope of the clearway will differ depending on when the aircraft was certificated.

(Refer to 14 CFR Part 1.)

CLIMB TO VFR– ATC authorization for an aircraft to climb to VFR conditions within Class B, C, D, and E surface areas when the only weather limitation is restricted visibility. The aircraft must remain clear of clouds while climbing to VFR.

(See SPECIAL VFR CONDITIONS.)

(Refer to AIM.)

CLIMBOUT– That portion of flight operation between takeoff and the initial cruising altitude.

CLIMB VIA– An abbreviated ATC clearance that requires compliance with the procedure lateral path, associated speed restrictions, and altitude restrictions along the cleared route or procedure.

CLOSE PARALLEL RUNWAYS– Two parallel runways whose extended centerlines are separated by less than 4,300 feet and at least 3000 feet (750 feet for SOIA operations) for which ATC is authorized to conduct simultaneous independent approach operations. PRM and simultaneous close parallel appear in approach title. Dual communications, special pilot training, an Attention All Users Page (AAUP), NTZ monitoring by displays that have aural and visual alerting algorithms are required. A high update rate surveillance sensor is required for certain runway or approach course spacing.

CLOSED LOOP CLEARANCE– A vector or reroute clearance that includes a return to route point and updates ERAM to accurately reflect the anticipated route (e.g., a QU route pick that anticipates length of vector and includes the next fix that ties into the route of flight.)

CLOSED RUNWAY– A runway that is unusable for aircraft operations. Only the airport management/military operations office can close a runway.

CLOSED TRAFFIC– Successive operations involving takeoffs and landings or low approaches where the aircraft does not exit the traffic pattern.

CLOUD– A cloud is a visible accumulation of minute water droplets and/or ice particles in the atmosphere above the Earth’s surface. Cloud differs from ground fog, fog, or ice fog only in that the latter are, by definition, in contact with the Earth’s surface.

CLT–

(See CALCULATED LANDING TIME.)

CLUTTER– In radar operations, clutter refers to the reception and visual display of radar returns caused by precipitation, chaff, terrain, numerous aircraft targets, or other phenomena. Such returns may limit or preclude ATC from providing services based on radar.

(See CHAFF.)

(See GROUND CLUTTER.)

(See PRECIPITATION.)

(See TARGET.)

(See ICAO term RADAR CLUTTER.)

CMNPS–

(See CANADIAN MINIMUM NAVIGATION PERFORMANCE SPECIFICATION AIRSPACE.)

COA–

(See CERTIFICATE OF WAIVER OR AUTHORIZATION.)

COASTAL FIX– A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

CODES– The number assigned to a particular multiple pulse reply signal transmitted by a transponder.

(See DISCRETE CODE.)

COLD TEMPERATURE CORRECTION– A correction in feet, based on height above airport and temperature, that is added to the aircraft's indicated altitude to offset the effect of cold temperature on true altitude.

COLLABORATIVE TRAJECTORY OPTIONS PROGRAM (CTOP)– CTOP is a traffic management program administered by the Air Traffic Control System Command Center (ATCSCC) that manages demand through constrained airspace, while considering operator preference with regard to both route and delay as defined in a Trajectory Options Set (TOS).

COMBINED CENTER-RAPCON– An air traffic facility which combines the functions of an ARTCC and a radar approach control facility.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(See RADAR APPROACH CONTROL FACILITY.)

COMMON POINT– A significant point over which two or more aircraft will report passing or have reported passing before proceeding on the same or diverging tracks. To establish/maintain longitudinal separation, a controller may determine a common point not originally in the aircraft's flight plan and then clear the aircraft to fly over the point.

(See SIGNIFICANT POINT.)

COMMON PORTION–

(See COMMON ROUTE.)

COMMON ROUTE– That segment of a North American Route between the inland navigation facility and the coastal fix.

OR

COMMON ROUTE–

(See SEGMENTS OF A SID/STAR)

COMMON TRAFFIC ADVISORY FREQUENCY (CTAF)– A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

(See DESIGNATED COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AREA.)

(Refer to AC 90-66, Non-Towered Airport Flight Operations.)

COMMUNITY-BASED ORGANIZATION (CBO)– A membership-based entity, described under Section 501(a,c), whose mission is the furtherance of model aviation. (see also, 49 United States Code (USC) §44809 (h) and Advisory Circular (AC) 91-57).

COMPASS LOCATOR– A low power, low or medium frequency (L/MF) radio beacon installed at the site of the outer or middle marker of an instrument landing system (ILS). It can be used for navigation at distances of approximately 15 miles or as authorized in the approach procedure.

a. Outer Compass Locator (LOM)– A compass locator installed at the site of the outer marker of an instrument landing system.

(See OUTER MARKER.)

b. Middle Compass Locator (LMM)– A compass locator installed at the site of the middle marker of an instrument landing system.

(See MIDDLE MARKER.)

(See ICAO term LOCATOR.)

COMPASS ROSE– A circle, graduated in degrees, printed on some charts or marked on the ground at an airport. It is used as a reference to either true or magnetic direction.

COMPLY WITH RESTRICTIONS– An ATC instruction that requires an aircraft being vectored back onto an arrival or departure procedure to comply with all altitude and/or speed restrictions depicted on the procedure. This term may be used in lieu of repeating each remaining restriction that appears on the procedure.

COMPOSITE FLIGHT PLAN– A flight plan which specifies VFR operation for one portion of flight and IFR for another portion. It is used primarily in military operations.

(Refer to AIM.)

COMPULSORY REPORTING POINTS– Reporting points which must be reported to ATC. They are designated on aeronautical charts by solid triangles or filed in a flight plan as fixes selected to define direct routes. These points are geographical locations which are defined by navigation aids/fixes. Pilots should discontinue position reporting over compulsory reporting points when informed by ATC that their aircraft is in “radar contact.”

COMPUTER NAVIGATION FIX (CNF)– A Computer Navigation Fix is a point defined by a latitude/longitude coordinate and is required to support Performance-Based Navigation (PBN) operations. A five-letter identifier denoting a CNF can be found next to an “x” on en route charts and on some approach charts. Eventually, all CNFs will be labeled and begin with the letters “CF” followed by three consonants (e.g., ‘CFWBG’). CNFs are not recognized by ATC, are not contained in ATC fix or automation databases, and are not used for ATC purposes. Pilots should not use CNFs for point-to-point navigation (e.g., proceed direct), filing a flight plan, or in aircraft/ATC communications. Use of CNFs has not been adopted or recognized by the International Civil Aviation Organization (ICAO).

(REFER to AIM 1-1-17b5(i)(2), Global Positioning System (GPS).

CONDITIONS NOT MONITORED– When an airport operator cannot monitor the condition of the movement area or airfield surface area, this information is issued as a NOTAM. Usually necessitated due to staffing, operating hours or other mitigating factors associated with airport operations.

CONFIDENCE MANEUVER– A confidence maneuver consists of one or more turns, a climb or descent, or other maneuver to determine if the pilot in command (PIC) is able to receive and comply with ATC instructions.

CONFLICT ALERT– A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between tracked targets (known IFR or VFR aircraft) that require his/her immediate attention/action.

(See MODE C INTRUDER ALERT.)

CONFLICT RESOLUTION– The resolution of potential conflicts between aircraft that are radar identified and in communication with ATC by ensuring that radar targets do not touch. Pertinent traffic advisories shall be issued when this procedure is applied.

Note: This procedure shall not be provided utilizing mosaic radar systems.

CONFORMANCE– The condition established when an aircraft’s actual position is within the conformance region constructed around that aircraft at its position, according to the trajectory associated with the aircraft’s Current Plan.

CONFORMANCE REGION– A volume, bounded laterally, vertically, and longitudinally, within which an aircraft must be at a given time in order to be in conformance with the Current Plan Trajectory for that aircraft. At a given time, the conformance region is determined by the simultaneous application of the lateral, vertical, and longitudinal conformance bounds for the aircraft at the position defined by time and aircraft’s trajectory.

CONSOLAN– A low frequency, long-distance NAVAID used principally for transoceanic navigations.

CONSOLIDATED WAKE TURBULENCE (CWT)– A version of RECAT that has nine categories, A through I, that refines the grouping of aircraft while optimizing wake turbulence separation.

CONSTRAINT SATISFACTION POINT (CSP)– Meter Reference Elements (MREs) that are actively scheduled by TBFM. Constraint satisfaction occurs when the Scheduled Time of Arrival generated for each metered flight conforms to all the scheduling constraints specified at all the applicable CSPs.

CONTACT–

a. Establish communication with (followed by the name of the facility and, if appropriate, the frequency to be used).

b. A flight condition wherein the pilot ascertains the attitude of his/her aircraft and navigates by visual reference to the surface.

(See **CONTACT APPROACH**.)

(See **RADAR CONTACT**.)

CONTACT APPROACH– An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.

(Refer to AIM.)

CONTAMINATED RUNWAY– A runway is considered contaminated whenever standing water, ice, snow, slush, frost in any form, heavy rubber, or other substances are present. A runway is contaminated with respect to rubber deposits or other friction-degrading substances when the average friction value for any 500-foot segment of the runway within the ALD fails below the recommended minimum friction level and the average friction value in the adjacent 500-foot segments falls below the maintenance planning friction level.

CONTERMINOUS U.S.– The 48 adjoining States and the District of Columbia.

CONTINENTAL UNITED STATES– The 49 States located on the continent of North America and the District of Columbia.

CONTINGENCY HAZARD AREA (CHA)– Used by ATC. Areas of airspace that are defined and distributed in advance of a launch or reentry operation and are activated in response to a failure.

(See **AIRCRAFT HAZARD AREA**.)

(See **REFINED HAZARD AREA**.)

(See **TRANSITIONAL HAZARD AREA**.)

CONTINUE– When used as a control instruction should be followed by another word or words clarifying what is expected of the pilot. Example: “continue taxi,” “continue descent,” “continue inbound,” etc.

CONTROL AREA [ICAO]– A controlled airspace extending upwards from a specified limit above the earth.

CONTROL SECTOR– An airspace area of defined horizontal and vertical dimensions for which a controller or group of controllers has air traffic control responsibility, normally within an air route traffic control center or an approach control facility. Sectors are established based on predominant traffic flows, altitude strata, and

controller workload. Pilot communications during operations within a sector are normally maintained on discrete frequencies assigned to the sector.

(See DISCRETE FREQUENCY.)

CONTROL SLASH– A radar beacon slash representing the actual position of the associated aircraft. Normally, the control slash is the one closest to the interrogating radar beacon site. When ARTCC radar is operating in narrowband (digitized) mode, the control slash is converted to a target symbol.

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

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

b. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in 14 CFR Part 91 (for specific operating requirements, please refer to 14 CFR Part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, please refer to 14 CFR Part 71).

c. Controlled airspace in the United States is designated as follows:

1. **CLASS A**– Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

2. **CLASS B**– Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation’s busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is “clear of clouds.”

3. **CLASS C**– Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 NM radius, a circle with a 10 NM radius that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation, and an outer area that is not charted. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.

(See OUTER AREA.)

4. **CLASS D**– Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

5. **CLASS E**– Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12

nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

CONTROLLED AIRSPACE [ICAO]– An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

Note: Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D, and E.

CONTROLLED TIME OF ARRIVAL– Arrival time assigned during a Traffic Management Program. This time may be modified due to adjustments or user options.

CONTROLLER–

(See AIR TRAFFIC CONTROL SPECIALIST.)

CONTROLLER [ICAO]– A person authorized to provide air traffic control services.

CONTROLLER PILOT DATA LINK COMMUNICATIONS (CPDLC)– A two-way digital communications system that conveys textual air traffic control messages between controllers and pilots using ground or satellite-based radio relay stations.

CONVECTIVE SIGMET– A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMETs are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an area coverage of $\frac{4}{10}$ (40%) or more, and hail $\frac{3}{4}$ inch or greater.

(See AIRMET.)

(See CWA.)

(See GRAPHICAL AIRMEN'S METEOROLOGICAL INFORMATION.)

(See SAW.)

(See SIGMET.)

(Refer to AIM.)

CONVECTIVE SIGNIFICANT METEOROLOGICAL INFORMATION–

(See CONVECTIVE SIGMET.)

COOPERATIVE SURVEILLANCE– Any surveillance system, such as secondary surveillance radar (SSR), wide-area multilateration (WAM), or ADS-B, that is dependent upon the presence of certain equipment onboard the aircraft or vehicle to be detected.

(See AUTOMATIC DEPENDENT SURVEILLANCE–BROADCAST.)

(See NON-COOPERATIVE SURVEILLANCE.)

(See RADAR.)

(See WIDE AREA MULTILATERATION.)

COORDINATES– The intersection of lines of reference, usually expressed in degrees/minutes/seconds of latitude and longitude, used to determine position or location.

COORDINATION FIX– The fix in relation to which facilities will handoff, transfer control of an aircraft, or coordinate flight progress data. For terminal facilities, it may also serve as a clearance for arriving aircraft.

COPTER–

(See HELICOPTER.)

CORRECTION– An error has been made in the transmission and the correct version follows.

COUPLED APPROACH– An instrument approach performed by the aircraft autopilot, and/or visually depicted on the flight director, which is receiving position information and/or steering commands from onboard navigational equipment. In general, coupled non-precision approaches must be flown manually (autopilot disengaged) at altitudes lower than 50 feet AGL below the minimum descent altitude, and coupled precision approaches must be flown manually (autopilot disengaged) below 50 feet AGL unless authorized to conduct autoland operations. Coupled instrument approaches are commonly flown to the allowable IFR weather minima established by the operator or PIC, or flown VFR for training and safety.

COUPLED SCHEDULING (CS)/ EXTENDED METERING (XM)– Adds additional Constraint Satisfaction Points for metered aircraft along their route. This provides the ability to merge flows upstream from the meter fix and results in a more optimal distribution of delays over a greater distance from the airport, increased meter list accuracy, and more accurate delivery to the meter fix.

COURSE–

- a. The intended direction of flight in the horizontal plane measured in degrees from north.
- b. The ILS localizer signal pattern usually specified as the front course or the back course.
(See BEARING.)
(See INSTRUMENT LANDING SYSTEM.)
(See RADIAL.)

CPDLC–

(See CONTROLLER PILOT DATA LINK COMMUNICATIONS.)

CPL [ICAO]–

(See ICAO term CURRENT FLIGHT PLAN.)

CREWMEMBER (UAS)– A person assigned to perform an operational duty. A UAS crewmember includes the remote pilot in command, the person manipulating the controls, and visual observers but may also include other persons as appropriate or required to ensure the safe operation of the UAS (e.g., sensor operator, ground control station operator).

CRITICAL ENGINE– The engine which, upon failure, would most adversely affect the performance or handling qualities of an aircraft.

CROSS (FIX) AT (ALTITUDE)– Used by ATC when a specific altitude restriction at a specified fix is required.

CROSS (FIX) AT OR ABOVE (ALTITUDE)– Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment.

(See ALTITUDE RESTRICTION.)
(Refer to AIM.)

CROSS (FIX) AT OR BELOW (ALTITUDE)– Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude.

(See ALTITUDE RESTRICTION.)
(See MINIMUM IFR ALTITUDES.)
(Refer to 14 CFR Part 91.)

CROSSWIND–

- a. When used concerning the traffic pattern, the word means “crosswind leg.”
(See TRAFFIC PATTERN.)
- b. When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.
(See CROSSWIND COMPONENT.)

CROSSWIND COMPONENT– The wind component measured in knots at 90 degrees to the longitudinal axis of the runway.

CRUISE– Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and verbally reports leaving an altitude in the block, he/she may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at destination airport and can be used in conjunction with:

a. An airport clearance limit at locations with a standard/special instrument approach procedure. The CFRs require that if an instrument letdown to an airport is necessary, the pilot shall make the letdown in accordance with a standard/special instrument approach procedure for that airport, or

b. An airport clearance limit at locations that are within/below/outside controlled airspace and without a standard/special instrument approach procedure. Such a clearance is NOT AUTHORIZATION for the pilot to descend under IFR conditions below the applicable minimum IFR altitude nor does it imply that ATC is exercising control over aircraft in Class G airspace; however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable CFRs governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed.

(See INSTRUMENT APPROACH PROCEDURE.)

CRUISE CLIMB– A climb technique employed by aircraft, usually at a constant power setting, resulting in an increase of altitude as the aircraft weight decreases.

CRUISING ALTITUDE– An altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance.

(See ALTITUDE.)

(See ICAO term CRUISING LEVEL.)

CRUISING LEVEL–

(See CRUISING ALTITUDE.)

CRUISING LEVEL [ICAO]– A level maintained during a significant portion of a flight.

CSP–

(See CONSTRAINT SATISFACTION POINT)

CT MESSAGE– An EDCT time generated by the ATCSCC to regulate traffic at arrival airports. Normally, a CT message is automatically transferred from the traffic management system computer to the NAS en route computer and appears as an EDCT. In the event of a communication failure between the traffic management system computer and the NAS, the CT message can be manually entered by the TMC at the en route facility.

CTA–

(See CONTROLLED TIME OF ARRIVAL.)

(See ICAO term CONTROL AREA.)

CTAF–

(See COMMON TRAFFIC ADVISORY FREQUENCY.)

CTOP–

(See COLLABORATIVE TRAJECTORY OPTIONS PROGRAM)

CTRD–

(See CERTIFIED TOWER RADAR DISPLAY.)

CURRENT FLIGHT PLAN [ICAO]– The flight plan, including changes, if any, brought about by subsequent clearances.

CVFP APPROACH–

(See CHARTED VISUAL FLIGHT PROCEDURE APPROACH.)

CWA–

(See CENTER WEATHER ADVISORY and WEATHER ADVISORY.)

CWT–

(See CONSOLIDATED WAKE TURBULENCE.)

G

GATE HOLD PROCEDURES– Procedures at selected airports to hold aircraft at the gate or other ground location whenever departure delays exceed or are anticipated to exceed 15 minutes. The sequence for departure will be maintained in accordance with initial call–up unless modified by flow control restrictions. Pilots should monitor the ground control/clearance delivery frequency for engine start/taxi advisories or new proposed start/taxi time if the delay changes.

GCA–

(See **GROUND CONTROLLED APPROACH**.)

GDP–

(See **GROUND DELAY PROGRAM**.)

GENERAL AVIATION– That portion of civil aviation that does not include scheduled or unscheduled air carriers or commercial space operations.

(See ICAO term **GENERAL AVIATION**.)

GENERAL AVIATION [ICAO]– All civil aviation operations other than scheduled air services and nonscheduled air transport operations for remuneration or hire.

GEO MAP– The digitized map markings associated with the ASR-9 Radar System.

GLIDEPATH–

(See **GLIDESLOPE**.)

GLIDEPATH [ICAO]– A descent profile determined for vertical guidance during a final approach.

GLIDEPATH INTERCEPT ALTITUDE–

(See **GLIDESLOPE INTERCEPT ALTITUDE**.)

GLIDESLOPE– Provides vertical guidance for aircraft during approach and landing. The glideslope/glidepath is based on the following:

- a. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS; or,
- b. Visual ground aids, such as VASI, which provide vertical guidance for a VFR approach or for the visual portion of an instrument approach and landing.
- c. PAR. Used by ATC to inform an aircraft making a PAR approach of its vertical position (elevation) relative to the descent profile.

(See ICAO term **GLIDEPATH**.)

GLIDESLOPE INTERCEPT ALTITUDE– The published minimum altitude to intercept the glideslope in the intermediate segment of an instrument approach. Government charts use the lightning bolt symbol to identify this intercept point. This intersection is called the Precise Final Approach fix (PFAF). ATC directs a higher altitude, the resultant intercept becomes the PFAF.

(See **FINAL APPROACH FIX**.)

(See **SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE**.)

GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)– GNSS refers collectively to the worldwide positioning, navigation, and timing determination capability available from one or more satellite constellations. A GNSS constellation may be augmented by ground stations and/or geostationary satellites to improve integrity and position accuracy.

(See **GROUND–BASED AUGMENTATION SYSTEM**.)

(See **SATELLITE–BASED AUGMENTATION SYSTEM**.)

GLOBAL NAVIGATION SATELLITE SYSTEM MINIMUM EN ROUTE IFR ALTITUDE (GNSS MEA)– The minimum en route IFR altitude on a published ATS route or route segment which assures acceptable Global Navigation Satellite System reception and meets obstacle clearance requirements.

(Refer to 14 CFR Part 91.)

(Refer to 14 CFR Part 95.)

GLOBAL POSITIONING SYSTEM (GPS)– GPS refers to the worldwide positioning, navigation and timing determination capability available from the U.S. satellite constellation. The service provided by GPS for civil use is defined in the GPS Standard Positioning System Performance Standard. GPS is composed of space, control, and user elements.

GNSS [ICAO]–

(See GLOBAL NAVIGATION SATELLITE SYSTEM.)

GNSS MEA–

(See GLOBAL NAVIGATION SATELLITE SYSTEM MINIMUM EN ROUTE IFR ALTITUDE.)

GO AHEAD– Proceed with your message. Not to be used for any other purpose.

GO AROUND– Instructions for a pilot to abandon his/her approach to landing. Additional instructions may follow. Unless otherwise advised by ATC, a VFR aircraft or an aircraft conducting visual approach should overfly the runway while climbing to traffic pattern altitude and enter the traffic pattern via the crosswind leg. A pilot on an IFR flight plan making an instrument approach should execute the published missed approach procedure or proceed as instructed by ATC; e.g., “Go around” (additional instructions if required).

(See LOW APPROACH.)

(See MISSED APPROACH.)

GPD–

(See GRAPHIC PLAN DISPLAY.)

GPS–

(See GLOBAL POSITIONING SYSTEM.)

GRAPHICAL AIRMEN’S METEOROLOGICAL INFORMATION– A graphical depiction of weather that may be hazardous to aircraft, but are less severe than SIGMETs. G-AIRMETS are issued 3 hours apart for a period of up to 12 hours into the future for the lower 48 states and coastal waters. The weather hazards depicted can be:

- a. Moderate turbulence
- b. Low-level windshear
- c. Strong surface winds greater than 30 knots
- d. Moderate icing
- e. Freezing level
- f. Mountain obscuration
- g. IFR

(See AIRMET.)

(See CONVECTIVE SIGMET.)

(See CWA.)

(See SAW.)

(See SIGMET.)

(Refer to AIM.)

GRAPHIC PLAN DISPLAY (GPD)– A view available with EDST that provides a graphic display of aircraft, traffic, and notification of predicted conflicts. Graphic routes for Current Plans and Trial Plans are displayed upon controller request.

(See EN ROUTE DECISION SUPPORT TOOL.)

M

MAA–

(See MAXIMUM AUTHORIZED ALTITUDE.)

MACH NUMBER– The ratio of true airspeed to the speed of sound; e.g., MACH .82, MACH 1.6.

(See AIRSPEED.)

MACH TECHNIQUE [ICAO]– Describes a control technique used by air traffic control whereby turbojet aircraft operating successively along suitable routes are cleared to maintain appropriate MACH numbers for a relevant portion of the en route phase of flight. The principal objective is to achieve improved utilization of the airspace and to ensure that separation between successive aircraft does not decrease below the established minima.

MAHWP– Missed Approach Holding Waypoint

MAINTAIN–

a. Concerning altitude/flight level, the term means to remain at the altitude/flight level specified. The phrase “climb and” or “descend and” normally precedes “maintain” and the altitude assignment; e.g., “descend and maintain 5,000.”

b. Concerning other ATC instructions, the term is used in its literal sense; e.g., maintain VFR.

MAINTENANCE PLANNING FRICTION LEVEL– The friction level specified in AC 150/5320-12, Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces, which represents the friction value below which the runway pavement surface remains acceptable for any category or class of aircraft operations but which is beginning to show signs of deterioration. This value will vary depending on the particular friction measurement equipment used.

MAKE SHORT APPROACH– Used by ATC to inform a pilot to alter his/her traffic pattern so as to make a short final approach.

(See TRAFFIC PATTERN.)

MAN PORTABLE AIR DEFENSE SYSTEMS (MANPADS)– MANPADS are lightweight, shoulder-launched, missile systems used to bring down aircraft and create mass casualties. The potential for MANPADS use against airborne aircraft is real and requires familiarity with the subject. Terrorists choose MANPADS because the weapons are low cost, highly mobile, require minimal set-up time, and are easy to use and maintain. Although the weapons have limited range, and their accuracy is affected by poor visibility and adverse weather, they can be fired from anywhere on land or from boats where there is unrestricted visibility to the target.

MANDATORY ALTITUDE– An altitude depicted on an instrument Approach Procedure Chart requiring the aircraft to maintain altitude at the depicted value.

MANPADS–

(See MAN PORTABLE AIR DEFENSE SYSTEMS.)

MAP–

(See MISSED APPROACH POINT.)

MARKER BEACON– An electronic navigation facility transmitting a 75 MHz vertical fan or boneshaped radiation pattern. Marker beacons are identified by their modulation frequency and keying code, and when received by compatible airborne equipment, indicate to the pilot, both aurally and visually, that he/she is passing over the facility.

(See INNER MARKER.)

(See MIDDLE MARKER.)

(See OUTER MARKER.)

(Refer to AIM.)

MARSA–

(See MILITARY AUTHORITY ASSUMES RESPONSIBILITY FOR SEPARATION OF AIRCRAFT.)

MAWP– Missed Approach Waypoint

MAXIMUM AUTHORIZED ALTITUDE– A published altitude representing the maximum usable altitude or flight level for an airspace structure or route segment. It is the highest altitude on a Federal airway, jet route, area navigation low or high route, or other direct route for which an MEA is designated in 14 CFR Part 95 at which adequate reception of navigation aid signals is assured.

MAXIMUM GROSS OPERATING WEIGHT (MGOW)– The maximum gross weight of an aircraft, including fuel and any external objects, at any point during the flight.

MAYDAY– The international radiotelephony distress signal. When repeated three times, it indicates imminent and grave danger and that immediate assistance is requested.

(See PAN-PAN.)

(Refer to AIM.)

MCA–

(See MINIMUM CROSSING ALTITUDE.)

MDA–

(See MINIMUM DESCENT ALTITUDE.)

MEA–

(See MINIMUM EN ROUTE IFR ALTITUDE.)

MEARTS–

(See MICRO-EN ROUTE AUTOMATED RADAR TRACKING SYSTEM.)

METEOROLOGICAL IMPACT STATEMENT– An unscheduled planning forecast describing conditions expected to begin within 4 to 12 hours which may impact the flow of air traffic in a specific center's (ARTCC) area.

METER FIX ARC– A semicircle, equidistant from a meter fix, usually in low altitude relatively close to the meter fix, used to help TBFM/ERAM calculate a meter time, and determine appropriate sector meter list assignments for aircraft not on an established arrival route or assigned a meter fix.

METER REFERENCE ELEMENT (MRE)– A constraint point through which traffic flows are managed. An MRE can be the runway threshold, a meter fix, or a meter arc.

METER REFERENCE POINT LIST (MRP)– A list of TBFM delay information conveyed to the controller on the situation display via the Meter Reference Point View, commonly known as the "Meter List."

METERING–A method of time-regulating traffic flows in the en route and terminal environments.

METERING AIRPORTS– Airports adapted for metering and for which optimum flight paths are defined. A maximum of 15 airports may be adapted.

METERING FIX– A fix along an established route from over which aircraft will be metered prior to entering terminal airspace. Normally, this fix should be established at a distance from the airport which will facilitate a profile descent 10,000 feet above airport elevation (AAE) or above.

MGOW–

(See MAXIMUM GROSS OPERATING WEIGHT.)

MHA–

(See MINIMUM HOLDING ALTITUDE.)

MIA–

(See MINIMUM IFR ALTITUDES.)

N

NAS–

(See NATIONAL AIRSPACE SYSTEM.)

NAT HLA–

(See NORTH ATLANTIC HIGH LEVEL AIRSPACE.)

NATIONAL AIRSPACE SYSTEM– The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE (NBCAP)– Airspace over United States territory located within the North American continent between Canada and Mexico, including adjacent territorial waters outward to about boundaries of oceanic control areas (CTA)/Flight Information Regions (FIR).

(See FLIGHT INFORMATION REGION.)

NATIONAL FLIGHT DATA DIGEST (NFDD)– A daily (except weekends and Federal holidays) publication of flight information appropriate to aeronautical charts, aeronautical publications, Notices to Air Missions, or other media serving the purpose of providing operational flight data essential to safe and efficient aircraft operations.

NATIONAL SEARCH AND RESCUE PLAN– An interagency agreement which provides for the effective utilization of all available facilities in all types of search and rescue missions.

NATIONAL SECURITY AREA (NSA)–

(See SPECIAL USE AIRSPACE.)

NAVAID–

(See NAVIGATIONAL AID.)

NAVAID CLASSES– VOR, VORTAC, and TACAN aids are classed according to their operational use. The three classes of NAVAIDs are:

- a. T– Terminal.
- b. L– Low altitude.
- c. H– High altitude.

Note: The normal service range for T, L, and H class aids is found in the AIM. Certain operational requirements make it necessary to use some of these aids at greater service ranges than specified. Extended range is made possible through flight inspection determinations. Some aids also have lesser service range due to location, terrain, frequency protection, etc. Restrictions to service range are listed in the Chart Supplement. ■

NAVIGABLE AIRSPACE– Airspace at and above the minimum flight altitudes prescribed in the CFRs including airspace needed for safe takeoff and landing.

(Refer to 14 CFR Part 91.)

NAVIGATION REFERENCE SYSTEM (NRS)– The NRS is a system of waypoints developed for use within the United States for flight planning and navigation without reference to ground based navigational aids. The NRS waypoints are located in a grid pattern along defined latitude and longitude lines. The initial use of the NRS will be in the high altitude environment. The NRS waypoints are intended for use by aircraft capable of point-to-point navigation.

NAVIGATION SPECIFICATION [ICAO]– A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

a. RNP specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP; e.g., RNP 4, RNP APCH.

b. RNAV specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV; e.g., RNAV 5, RNAV 1.

Note: The Performance-based Navigation Manual (Doc 9613), Volume II contains detailed guidance on navigation specifications.

NAVIGATIONAL AID– Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

(See AIR NAVIGATION FACILITY.)

NAVSPEC–

(See NAVIGATION SPECIFICATION [ICAO].)

NBCAP AIRSPACE–

(See NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE.)

NDB–

(See NONDIRECTIONAL BEACON.)

NEGATIVE– “No,” or “permission not granted,” or “that is not correct.”

NEGATIVE CONTACT– Used by pilots to inform ATC that:

a. Previously issued traffic is not in sight. It may be followed by the pilot’s request for the controller to provide assistance in avoiding the traffic.

b. They were unable to contact ATC on a particular frequency.

NFDD–

(See NATIONAL FLIGHT DATA DIGEST.)

NIGHT– The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the Air Almanac, converted to local time.

(See ICAO term NIGHT.)

NIGHT [ICAO]– The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be specified by the appropriate authority.

Note: Civil twilight ends in the evening when the center of the sun’s disk is 6 degrees below the horizon and begins in the morning when the center of the sun’s disk is 6 degrees below the horizon.

NO GYRO APPROACH– A radar approach/vector provided in case of a malfunctioning gyro-compass or directional gyro. Instead of providing the pilot with headings to be flown, the controller observes the radar track and issues control instructions “turn right/left” or “stop turn” as appropriate.

(Refer to AIM.)

NO GYRO VECTOR–

(See NO GYRO APPROACH.)

NO TRANSGRESSION ZONE (NTZ)– The NTZ is a 2,000 foot wide zone, located equidistant between parallel runway or SOIA final approach courses, in which flight is normally not allowed.

NONAPPROACH CONTROL TOWER– Author-izes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace. The primary function of a nonapproach control tower is the sequencing of aircraft in the traffic pattern and on the landing area. Nonapproach control towers also separate aircraft operating under instrument flight rules clearances from approach controls and centers. They provide ground control services to aircraft, vehicles, personnel, and equipment on the airport movement area.

NONCOMMON ROUTE/PORTION– That segment of a North American Route between the inland navigation facility and a designated North American terminal.

POINT-TO-POINT (PTP)– A level of NRR service for aircraft that is based on traditional waypoints in their FMSs or RNAV equipage.

POLAR TRACK STRUCTURE– A system of organized routes between Iceland and Alaska which overlie Canadian MNPS Airspace.

POSITION REPORT– A report over a known location as transmitted by an aircraft to ATC.

(Refer to AIM.)

POSITION SYMBOL– A computer-generated indication shown on a radar display to indicate the mode of tracking.

POSITIVE CONTROL– The separation of all air traffic within designated airspace by air traffic control.

PRACTICE INSTRUMENT APPROACH– An instrument approach procedure conducted by a VFR or an IFR aircraft for the purpose of pilot training or proficiency demonstrations.

PRE-DEPARTURE CLEARANCE– An application with the Terminal Data Link System (TDLS) that provides clearance information to subscribers, through a service provider, in text to the cockpit or gate printer.

PRE-DEPARTURE REROUTE (PDRR)– A capability within the Traffic Flow Management System that enables ATC to quickly amend and execute revised departure clearances that mitigate en route constraints or balance en route traffic flows.

PREARRANGED COORDINATION– A standardized procedure which permits an air traffic controller to enter the airspace assigned to another air traffic controller without verbal coordination. The procedures are defined in a facility directive which ensures approved separation between aircraft.

PREARRANGED COORDINATION PROCEDURES– A facility's standardized procedure that describes the process by which one controller shall allow an aircraft to penetrate or transit another controller's airspace in a manner that assures approved separation without individual coordination for each aircraft.

PRECIPITATION– Any or all forms of water particles (rain, sleet, hail, or snow) that fall from the atmosphere and reach the surface.

PRECIPITATION RADAR WEATHER DESCRIPTIONS– Existing radar systems cannot detect turbulence. However, there is a direct correlation between the degree of turbulence and other weather features associated with thunderstorms and the weather radar precipitation intensity. Controllers will issue (where capable) precipitation intensity as observed by radar when using weather and radar processor (WARP) or NAS ground-based digital radars with weather capabilities. When precipitation intensity information is not available, the intensity will be described as UNKNOWN. When intensity levels can be determined, they shall be described as:

- a. LIGHT (< 26 dBZ)
- b. MODERATE (26 to 40 dBZ)
- c. HEAVY (> 40 to 50 dBZ)
- d. EXTREME (> 50 dBZ)

(Refer to the Aviation Weather Handbook, FAA-H-8083-28.)

PRECISION APPROACH–

(See PRECISION APPROACH PROCEDURE.)

PRECISION APPROACH PROCEDURE– A standard instrument approach procedure in which an electronic glideslope or other type of glidepath is provided; e.g., ILS, PAR, and GLS.

(See INSTRUMENT LANDING SYSTEM.)

(See PRECISION APPROACH RADAR.)

PRECISION APPROACH RADAR– Radar equipment in some ATC facilities operated by the FAA and/or the military services at joint-use civil/military locations and separate military installations to detect and display azimuth, elevation, and range of aircraft on the final approach course to a runway. This equipment may be used

to monitor certain nonradar approaches, but is primarily used to conduct a precision instrument approach (PAR) wherein the controller issues guidance instructions to the pilot based on the aircraft's position in relation to the final approach course (azimuth), the glidepath (elevation), and the distance (range) from the touchdown point on the runway as displayed on the radar scope.

(See GLIDEPATH.)

(See PAR.)

(See ICAO term PRECISION APPROACH RADAR.)

(Refer to AIM.)

PRECISION APPROACH RADAR [ICAO]– Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown.

PRECISION OBSTACLE FREE ZONE (POFZ)– An 800 foot wide by 200 foot long area centered on the runway centerline adjacent to the threshold designed to protect aircraft flying precision approaches from ground vehicles and other aircraft when ceiling is less than 250 feet or visibility is less than 3/4 statute mile (or runway visual range below 4,000 feet.)

PRECISION RUNWAY MONITOR (PRM) SYSTEM– Provides air traffic controllers monitoring the NTZ during simultaneous close parallel PRM approaches with precision, high update rate secondary surveillance data. The high update rate surveillance sensor component of the PRM system is only required for specific runway or approach course separation. The high resolution color monitoring display, Final Monitor Aid (FMA) of the PRM system, or other FMA with the same capability, presents NTZ surveillance track data to controllers along with detailed maps depicting approaches and no transgression zone and is required for all simultaneous close parallel PRM NTZ monitoring operations.

(Refer to AIM.)

PREDICTIVE WIND SHEAR ALERT SYSTEM (PWS)– A self-contained system used on board some aircraft to alert the flight crew to the presence of a potential wind shear. PWS systems typically monitor 3 miles ahead and 25 degrees left and right of the aircraft's heading at or below 1200' AGL. Departing flights may receive a wind shear alert after they start the takeoff roll and may elect to abort the takeoff. Aircraft on approach receiving an alert may elect to go around or perform a wind shear escape maneuver.

PREFERRED IFR ROUTES– Routes established between busier airports to increase system efficiency and capacity. They normally extend through one or more ARTCC areas and are designed to achieve balanced traffic flows among high density terminals. IFR clearances are issued on the basis of these routes except when severe weather avoidance procedures or other factors dictate otherwise. Preferred IFR Routes are listed in the Chart Supplement U.S., and are also available at https://www.fly.faa.gov/rmt/nfdc_preferred_routes_database.jsp. If a flight is planned to or from an area having such routes but the departure or arrival point is not listed in the Chart Supplement U.S., pilots may use that part of a Preferred IFR Route which is appropriate for the departure or arrival point that is listed. Preferred IFR Routes may be defined by DPs, SIDs, or STARs; NAVAIDs, Waypoints, etc.; high or low altitude airways; or any combinations thereof. Because they often share elements with adapted routes, pilots' use of preferred IFR routes can minimize flight plan route amendments.

(See ADAPTED ROUTES.)

(See CENTER'S AREA.)

(See INSTRUMENT APPROACH PROCEDURE.)

(See INSTRUMENT DEPARTURE PROCEDURE.)

(See STANDARD TERMINAL ARRIVAL.)

(Refer to CHART SUPPLEMENT U.S.)

PRE-FLIGHT PILOT BRIEFING–

(See PILOT BRIEFING.)

PREVAILING VISIBILITY–

(See VISIBILITY.)

b. Advanced – Required Navigation Performance (A–RNP). A navigation specification based on RNP that requires advanced functions such as scalable RNP, radius–to–fix (RF) legs, and tactical parallel offsets. This sophisticated Navigation Specification (NavSpec) is designated by the abbreviation “A–RNP”.

c. Required Navigation Performance (RNP) Airspace. A generic term designating airspace, route(s), leg(s), operation(s), or procedure(s) where minimum required navigational performance (RNP) have been established.

d. Actual Navigation Performance (ANP). A measure of the current estimated navigational performance. Also referred to as Estimated Position Error (EPE).

e. Estimated Position Error (EPE). A measure of the current estimated navigational performance. Also referred to as Actual Navigation Performance (ANP).

f. Lateral Navigation (LNAV). A function of area navigation (RNAV) equipment which calculates, displays, and provides lateral guidance to a profile or path.

g. Vertical Navigation (VNAV). A function of area navigation (RNAV) equipment which calculates, displays, and provides vertical guidance to a profile or path.

REROUTE IMPACT ASSESSMENT (RRIA)– A capability within the Traffic Flow Management System that is used to define and evaluate a potential reroute prior to implementation, with or without miles–in–trail (MIT) restrictions. RRIA functions estimate the impact on demand (e.g., sector loads) and performance (e.g., flight delay). Using RRIA, traffic management personnel can determine whether the reroute will sufficiently reduce demand in the Flow Constraint Area and not create excessive “spill over” demand in the adjacent airspace on a specific route segment or point of interest (POI).

RESCUE COORDINATION CENTER (RCC)– A search and rescue (SAR) facility equipped and manned to coordinate and control SAR operations in an area designated by the SAR plan. The U.S. Coast Guard and the U.S. Air Force have responsibility for the operation of RCCs.

(See ICAO term RESCUE CO-ORDINATION CENTRE.)

RESCUE CO-ORDINATION CENTRE [ICAO]– A unit responsible for promoting efficient organization of search and rescue service and for coordinating the conduct of search and rescue operations within a search and rescue region.

RESOLUTION ADVISORY– A display indication given to the pilot by the Traffic alert and Collision Avoidance System (TCAS II) recommending a maneuver to increase vertical separation relative to an intruding aircraft. Positive, negative, and vertical speed limit (VSL) advisories constitute the resolution advisories. A resolution advisory is also classified as corrective or preventive.

RESTRICTED AREA–

(See SPECIAL USE AIRSPACE.)

(See ICAO term RESTRICTED AREA.)

RESTRICTED AREA [ICAO]– An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

RESUME NORMAL SPEED– Used by ATC to advise a pilot to resume an aircraft’s normal operating speed. It is issued to terminate a speed adjustment where no published speed restrictions apply. It does not delete speed restrictions in published procedures of upcoming segments of flight. This does not relieve the pilot of those speed restrictions that are applicable to 14 CFR Section 91.117.

RESUME OWN NAVIGATION– Used by ATC to advise a pilot to resume his/her own navigational responsibility. It is issued after completion of a radar vector or when radar contact is lost while the aircraft is being radar vectored.

(See RADAR CONTACT LOST.)

(See RADAR SERVICE TERMINATED.)

RESUME PUBLISHED SPEED– Used by ATC to advise a pilot to resume published speed restrictions that are applicable to a SID, STAR, or other instrument procedure. It is issued to terminate a speed adjustment where speed restrictions are published on a charted procedure.

RHA–

(See REFINED HAZARD AREA.)

RID–

(See REMOTE IDENTIFICATION.)

RMI–

(See RADIO MAGNETIC INDICATOR.)

RNAV–

(See AREA NAVIGATION (RNAV).)

RNAV APPROACH– An instrument approach procedure which relies on aircraft area navigation equipment for navigational guidance.

(See AREA NAVIGATION (RNAV).)

(See INSTRUMENT APPROACH PROCEDURE.)

RNAV VISUAL FLIGHT PROCEDURE (RVFP)– An RVFP is a special visual flight procedure flown on an IFR flight plan. It is flown in visual conditions and clear of clouds must be maintained. An RVFP is flown using an approved RNAV system to maintain published lateral and vertical paths to runways without an instrument approach procedure. It requires an ATC clearance and may begin at other points along the path of the charted procedure when approved by ATC. An RVFP is not published in the Federal Register for public use and the operator is required to have a specific Operations Specification approval. Required ceiling and visibility minima are published on the procedure chart. An RVFP does not have a missed approach procedure and is not evaluated for obstacle protection.

ROAD RECONNAISSANCE (RC)– Military activity requiring navigation along roads, railroads, and rivers. Reconnaissance route/route segments are seldom along a straight line and normally require a lateral route width of 10 NM to 30 NM and an altitude range of 500 feet to 10,000 feet AGL.

ROGER– I have received all of your last transmission. It should not be used to answer a question requiring a yes or a no answer.

(See AFFIRMATIVE.)

(See NEGATIVE.)

ROLLOUT RVR–

(See VISIBILITY.)

ROTOR WASH– A phenomenon resulting from the vertical down wash of air generated by the main rotor(s) of a helicopter.

ROUND-ROBIN FLIGHT PLAN– A single flight plan filed from the departure airport to an intermediary destination(s) and then returning to the original departure airport.

ROUTE– A defined path, consisting of one or more courses in a horizontal plane, which aircraft traverse over the surface of the earth.

(See AIRWAY.)

(See JET ROUTE.)

(See PUBLISHED ROUTE.)

(See UNPUBLISHED ROUTE.)

ROUTE ACTION NOTIFICATION– EDST notification that an ADR/ADAR/AAR has been applied to the flight plan.

(See ATC PREFERRED ROUTE NOTIFICATION.)

(See EN ROUTE DECISION SUPPORT TOOL.)

S

SAA–

(See SENSE AND AVOID.)

(See SPECIAL ACTIVITY AIRSPACE.)

SAFETY ALERT– A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller’s judgment, places the aircraft in unsafe proximity to terrain, obstructions, or other aircraft. The controller may discontinue the issuance of further alerts if the pilot advises he/she is taking action to correct the situation or has the other aircraft in sight.

a. Terrain/Obstruction Alert– A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller’s judgment, places the aircraft in unsafe proximity to terrain/obstructions; e.g., “Low Altitude Alert, check your altitude immediately.”

b. Aircraft Conflict Alert– A safety alert issued by ATC to aircraft under their control if ATC is aware of an aircraft that is not under their control at an altitude which, in the controller’s judgment, places both aircraft in unsafe proximity to each other. With the alert, ATC will offer the pilot an alternate course of action when feasible; e.g., “Traffic Alert, advise you turn right heading zero niner zero or climb to eight thousand immediately.”

Note: The issuance of a safety alert is contingent upon the capability of the controller to have an awareness of an unsafe condition. The course of action provided will be predicated on other traffic under ATC control. Once the alert is issued, it is solely the pilot’s prerogative to determine what course of action, if any, he/she will take.

SAFETY LOGIC SYSTEM– A software enhancement to ASDE–3, ASDE–X, and ASSC, that predicts the path of aircraft landing and/or departing, and/or vehicular movements on runways. Visual and aural alarms are activated when the safety logic projects a potential collision. The Airport Movement Area Safety System (AMASS) is a safety logic system enhancement to the ASDE–3. The Safety Logic System for ASDE–X and ASSC is an integral part of the software program.

SAFETY LOGIC SYSTEM ALERTS–

a. ALERT–

1. An actual situation involving two real Safety Logic tracks (aircraft/aircraft, aircraft/vehicle, or aircraft/other tangible object) that the Safety Logic System has predicted will result in an imminent collision, based upon the Safety Logic parameters.

2. An actual situation involving a single Safety Logic track arriving to, or departing from, a closed runway.

3. An actual situation involving a single Safety Logic track arriving to a taxiway.

b. FALSE ALERT–

1. Alerts generated by one or more false surface radar or cooperative surveillance targets, that the ASDE system has interpreted as real tracks and placed into Safety Logic.

2. Alerts in which the Safety Logic System did not perform correctly, based upon the design specifications and Safety Logic parameters.

3. Alerts generated by surface radar targets caused by moderate or greater precipitation.

c. NUISANCE ALERT–

An alert in which one or more of the following is true:

1. The alert is generated by a known situation that is not considered an unsafe operation, such as LAHSO or other approved operations.

2. The alert is generated by inaccurate cooperative surveillance data received by the Safety Logic System.

3. One or more of the aircraft involved in the alert is not intending to use a runway/taxiway (helicopter, pipeline patrol, non–Mode C overflight, etc.).

d. VALID NON–ALERT– A situation in which the Safety Logic System correctly determines that an alert is not required, based upon the design specifications and Safety Logic parameters.

e. INVALID NON-ALERT- A situation in which the Safety Logic System did not issue an alert when an alert was required, based upon the design specifications and Safety Logic parameters.

SAIL BACK- A maneuver during high wind conditions (usually with power off) where float plane movement is controlled by water rudders/opening and closing cabin doors.

SAME DIRECTION AIRCRAFT- Aircraft are operating in the same direction when:

- a. They are following the same track in the same direction; or
- b. Their tracks are parallel and the aircraft are flying in the same direction; or
- c. Their tracks intersect at an angle of less than 45 degrees.

SAR-

(See **SEARCH AND RESCUE**.)

SATELLITE-BASED AUGMENTATION SYSTEM (SBAS) - A wide coverage augmentation system in which the user receives augmentation information from a satellite-based transmitter.

(See **WIDE-AREA AUGMENTATION SYSTEM (WAAS)**.)

SAW-

(See **AVIATION WATCH NOTIFICATION MESSAGE**.)

SAY AGAIN- Used to request a repeat of the last transmission. Usually specifies transmission or portion thereof not understood or received; e.g., "Say again all after **ABRAM VOR**."

SAY ALTITUDE- Used by ATC to ascertain an aircraft's specific altitude/flight level. When the aircraft is climbing or descending, the pilot should state the indicated altitude rounded to the nearest 100 feet.

SAY HEADING- Used by ATC to request an aircraft heading. The pilot should state the actual heading of the aircraft.

SCHEDULED TIME OF ARRIVAL (STA)- A STA is the desired time that an aircraft should cross a certain point (landing or metering fix). It takes other traffic and airspace configuration into account. A STA time shows the results of the TBFM scheduler that has calculated an arrival time according to parameters such as optimized spacing, aircraft performance, and weather.

SDF-

(See **SIMPLIFIED DIRECTIONAL FACILITY**.)

SE SAR-

(See **SURVEILLANCE ENHANCED SEARCH AND RESCUE**.)

SEA LANE- A designated portion of water outlined by visual surface markers for and intended to be used by aircraft designed to operate on water.

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

(See **FLIGHT SERVICE STATION**.)

(See **RESCUE COORDINATION CENTER**.)

(Refer to **AIM**.)

SEARCH AND RESCUE FACILITY- A facility responsible for maintaining and operating a search and rescue (SAR) service to render aid to persons and property in distress. It is any SAR unit, station, NET, or other operational activity which can be usefully employed during an SAR Mission; e.g., a Civil Air Patrol Wing, or a Coast Guard Station.

(See **SEARCH AND RESCUE**.)

SECNOT–

(See SECURITY NOTICE.)

SECONDARY RADAR TARGET– A target derived from a transponder return presented on a radar display.

SECTIONAL AERONAUTICAL CHARTS–

(See AERONAUTICAL CHART.)

SECTOR LIST DROP INTERVAL– A parameter number of minutes after the meter fix time when arrival aircraft will be deleted from the arrival sector list.

SECURITY NOTICE (SECNOT) – A SECNOT is a request originated by the Air Traffic Security Coordinator (ATSC) for an extensive communications search for aircraft involved, or suspected of being involved, in a security violation, or are considered a security risk. A SECNOT will include the aircraft identification, search area, and expiration time. The search area, as defined by the ATSC, could be a single airport, multiple airports, a radius of an airport or fix, or a route of flight. Once the expiration time has been reached, the SECNOT is considered to be canceled.

SECURITY SERVICES AIRSPACE – Areas established through the regulatory process or by NOTAM, issued by the Administrator under title 14, CFR, sections 99.7, 91.141, and 91.139, which specify that ATC security services are required; i.e., ADIZ or temporary flight rules areas.

SEE AND AVOID– When weather conditions permit, pilots operating IFR or VFR are required to observe and maneuver to avoid other aircraft. Right-of-way rules are contained in 14 CFR Part 91.

SEGMENTED CIRCLE– A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.

(Refer to AIM.)

SEGMENTS OF A SID/STAR–

a. En Route Transition– The segment(s) of a SID/STAR that connect to/from en route flight. Not all SIDs/STARs will contain an en route transition.

b. En Route Transition Waypoint– The NAVAID/fix/waypoint that defines the beginning of the SID/STAR en route transition.

c. Common Route– The segment(s) of a SID/STAR procedure that provides a single route serving an airport/runway or multiple airports/runways. The common route may consist of a single point. Not all conventional SIDs will contain a common route.

d. Runway Transition– The segment(s) of a SID/STAR between the common route/point and the runway(s). Not all SIDs/STARs will contain a runway transition.

e. Runway Transition Waypoint (RTW)– On a STAR, the NAVAID/fix/waypoint that defines the end of the common route or en route transition and the beginning of a runway transition (In the arrival route description found on the STAR chart, the last fix of the common route and the first fix of the runway transition(s)).

SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE– An instrument approach procedure may have as many as four separate segments depending on how the approach procedure is structured.

a. Initial Approach– The segment between the initial approach fix and the intermediate fix or the point where the aircraft is established on the intermediate course or final approach course.

(See ICAO term INITIAL APPROACH SEGMENT.)

b. Intermediate Approach– The segment between the intermediate fix or point and the final approach fix.

(See ICAO term INTERMEDIATE APPROACH SEGMENT.)

c. Final Approach– The segment between the final approach fix or point and the runway, airport, or missed approach point.

(See ICAO term FINAL APPROACH SEGMENT.)

d. Missed Approach– The segment between the missed approach point or the point of arrival at decision height and the missed approach fix at the prescribed altitude.

(Refer to 14 CFR Part 97.)

(See ICAO term MISSED APPROACH PROCEDURE.)

SELF-BRIEFING– A self-briefing is a review, using automated tools, of all meteorological and aeronautical information that may influence the pilot in planning, altering, or canceling a proposed route of flight.

SENSE AND AVOID (SAA) – The capability of an unmanned aircraft to detect (sense) and avoid collisions with other aircraft and all obstacles, whether airborne or on the ground while operating in the NAS.

SEPARATION– In air traffic control, the spacing of aircraft to achieve their safe and orderly movement in flight and while landing and taking off.

(See SEPARATION MINIMA.)

(See ICAO term SEPARATION.)

SEPARATION [ICAO]– Spacing between aircraft, levels or tracks.

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

(See SEPARATION.)

SERVICE– A generic term that designates functions or assistance available from or rendered by air traffic control. For example, Class C service would denote the ATC services provided within a Class C airspace area.

SEVERE WEATHER AVOIDANCE PLAN (SWAP)– An approved plan to minimize the affect of severe weather on traffic flows in impacted terminal and/or ARTCC areas. A SWAP is normally implemented to provide the least disruption to the ATC system when flight through portions of airspace is difficult or impossible due to severe weather.

SEVERE WEATHER FORECAST ALERTS– Preliminary messages issued in order to alert users that a Severe Weather Watch Bulletin (WW) is being issued. These messages define areas of possible severe thunderstorms or tornado activity. The messages are unscheduled and issued as required by the Storm Prediction Center (SPC) at Norman, Oklahoma.

(See AIRMET.)

(See CONVECTIVE SIGMET.)

(See CWA.)

(See GRAPHICAL ARMEN'S METEOROLOGICAL INFORMATION.)

(See SIGMET.)

SFA–

(See SINGLE FREQUENCY APPROACH.)

SFO–

(See SIMULATED FLAMEOUT.)

SFI

(See SPECIAL GOVERNMENT INTEREST.)

SHF–

(See SUPER HIGH FREQUENCY.)

SHORT RANGE CLEARANCE– A clearance issued to a departing IFR flight which authorizes IFR flight to a specific fix short of the destination while air traffic control facilities are coordinating and obtaining the complete clearance.

SHORT TAKEOFF AND LANDING AIRCRAFT (STOL)– An aircraft which, at some weight within its approved operating weight, is capable of operating from a runway in compliance with the applicable STOL characteristics, airworthiness, operations, noise, and pollution standards.

(See VERTICAL TAKEOFF AND LANDING AIRCRAFT.)

SIAP–

(See STANDARD INSTRUMENT APPROACH PROCEDURE.)

SID–

(See STANDARD INSTRUMENT DEPARTURE.)

SPACE LAUNCH AND REENTRY AREA– Locations where commercial space launch and/or reentry operations occur. For pilot awareness, a rocket-shaped symbol is used to depict space launch and reentry areas on sectional aeronautical charts.

SPEAK SLOWER– Used in verbal communications as a request to reduce speech rate.

SPECIAL GOVERNMENT INTEREST (SGI)– A near real-time airspace authorization for Part 91 or Part 107 UAS, which supports activities that answer significant and urgent governmental interests. These include: national defense, homeland security, law enforcement, and emergency operations objectives.

SPECIAL ACTIVITY AIRSPACE (SAA)– Airspace with defined dimensions within the National Airspace System wherein limitations may be imposed upon operations for national defense, homeland security, public interest, or public safety. Special activity airspace includes but is not limited to the following: Air Traffic Control Assigned Airspace (ATCAA), Altitude Reservations (ALTRV), Military Training Routes (MTR), Air Refueling Tracks and Anchors, Temporary Flight Restrictions (TFR), Special Security Instructions (SSI), etc. Special Use Airspace (SUA) is a subset of Special Activity Airspace.

(See SPECIAL USE AIRSPACE.)

SPECIAL AIR TRAFFIC RULES (SATR)– Rules that govern procedures for conducting flights in certain areas listed in 14 CFR Part 93. The term “SATR” is used in the United States to describe the rules for operations in specific areas designated in the Code of Federal Regulations.

(Refer to 14 CFR Part 93.)

SPECIAL EMERGENCY– A condition of air piracy or other hostile act by a person(s) aboard an aircraft which threatens the safety of the aircraft or its passengers.

SPECIAL FLIGHT RULES AREA (SFRA)– An area in the NAS, described in 14 CFR Part 93, wherein the flight of aircraft is subject to special traffic rules, unless otherwise authorized by air traffic control. Not all areas listed in 14 CFR Part 93 are designated SFRA, but special air traffic rules apply to all areas described in 14 CFR Part 93.

SPECIAL INSTRUMENT APPROACH PROCEDURE–

(See INSTRUMENT APPROACH PROCEDURE.)

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

a. Alert Area– Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft. Alert Areas are depicted on aeronautical charts for the information of nonparticipating pilots. All activities within an Alert Area are conducted in accordance with Federal Aviation Regulations, and pilots of participating aircraft as well as pilots transiting the area are equally responsible for collision avoidance.

b. Controlled Firing Area– Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground.

c. Military Operations Area (MOA)– Permanent and temporary MOAs are airspace established outside of Class A airspace area to separate or segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted. Permanent MOAs are depicted on Sectional Aeronautical, VFR Terminal Area, and applicable En Route Low Altitude Charts.

Note: Temporary MOAs are not charted.

(Refer to AIM.)

d. National Security Area (NSA)– Airspace of defined vertical and lateral dimensions established at locations where there is a requirement for increased security of ground facilities. Pilots are requested to voluntarily avoid flying through the depicted NSA. When a greater level of security is required, flight through an NSA may be temporarily prohibited by establishing a TFR under the provisions of 14 CFR Section 99.7. Such prohibitions will be issued by FAA Headquarters and disseminated via the U.S. NOTAM System.

(Refer to AIM)

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

(Refer to AIM.)

(Refer to En Route Charts.)

f. Restricted Area– Permanent and temporary restricted areas are airspace designated under 14 CFR Part 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency. Permanent restricted areas are depicted on Sectional Aeronautical, VFR Terminal Area, and applicable En Route charts. Where joint use is authorized, the name of the ATC controlling facility is also shown.

Note: Temporary restricted areas are not charted.

(Refer to 14 CFR Part 73.)

(Refer to AIM.)

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

SPECIAL VFR CONDITIONS– Meteorological conditions that are less than those required for basic VFR flight in Class B, C, D, or E surface areas and in which some aircraft are permitted flight under visual flight rules.

(See SPECIAL VFR OPERATIONS.)

(Refer to 14 CFR Part 91.)

SPECIAL VFR FLIGHT [ICAO]– A VFR flight cleared by air traffic control to operate within Class B, C, D, and E surface areas in meteorological conditions below VMC.

SPECIAL VFR OPERATIONS– Aircraft operating in accordance with clearances within Class B, C, D, and E surface areas in weather conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

(See SPECIAL VFR CONDITIONS.)

(See ICAO term SPECIAL VFR FLIGHT.)

SPECIALIST–PROVIDED SERVICES–

Services delivered directly by a flight service specialist via ground/ground communication, air/ground communication, in-person, or technology (for example, speech-to-text, email, or short message service).

SPEED–

(See AIRSPEED.)

(See GROUND SPEED.)

SPEED ADJUSTMENT– An ATC procedure used to request pilots to adjust aircraft speed to a specific value for the purpose of providing desired spacing. Pilots are expected to maintain a speed of plus or minus 10 knots or 0.02 Mach number of the specified speed. Examples of speed adjustments are:

a. “Increase/reduce speed to Mach point (number).”

b. “Increase/reduce speed to (speed in knots)” or “Increase/reduce speed (number of knots) knots.”

SPEED ADVISORY– Speed advisories that are generated within Time-Based Flow Management to assist controllers to meet the Scheduled Time of Arrival (STA) at the meter fix/meter arc. See also Ground-Based Interval Management–Spacing (GIM–S) Speed Advisory.

SPEED BRAKES– Moveable aerodynamic devices on aircraft that reduce airspeed during descent and landing.

SPEED SEGMENTS– Portions of the arrival route between the transition point and the vertex along the optimum flight path for which speeds and altitudes are specified. There is one set of arrival speed segments adapted from each transition point to each vertex. Each set may contain up to six segments.

SPOOFING– Denotes emissions of GNSS–like signals that may be acquired and tracked in combination with or instead of the intended signals by civil receivers. The onset of spoofing effects can be instantaneous or delayed, and effects can persist after the spoofing has ended. Spoofing can result in false and potentially confusing, or hazardingly misleading, position, navigation, and/or date/time information in addition to loss of GNSS use.

SQUAWK (Mode, Code, Function)– Used by ATC to instruct a pilot to activate the aircraft transponder and ADS–B Out with altitude reporting enabled, or (military) to activate only specific modes, codes, or functions. Examples: “Squawk five seven zero seven;” “Squawk three/alpha, two one zero five.”

(See TRANSPONDER.)

STA–

(See SCHEDULED TIME OF ARRIVAL.)

STAGING/QUEUING– The placement, integration, and segregation of departure aircraft in designated movement areas of an airport by departure fix, EDCT, and/or restriction.

STAND BY– Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. Also means to wait as in “stand by for clearance.” The caller should reestablish contact if a delay is lengthy. “Stand by” is not an approval or denial.

STANDARD INSTRUMENT APPROACH PROCEDURE (SIAP)–

(See INSTRUMENT APPROACH PROCEDURE.)

STANDARD INSTRUMENT DEPARTURE (SID)– A preplanned instrument flight rule (IFR) air traffic control (ATC) departure procedure printed for pilot/controller use in graphic form to provide obstacle clearance and a transition from the terminal area to the appropriate en route structure. SIDs are primarily designed for system enhancement to expedite traffic flow and to reduce pilot/controller workload. ATC clearance must always be received prior to flying a SID.

(See IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES.)

(See OBSTACLE DEPARTURE PROCEDURE.)

(Refer to AIM.)

STANDARD RATE TURN– A turn of three degrees per second.

STANDARD TERMINAL ARRIVAL (STAR)– A preplanned instrument flight rule (IFR) air traffic control arrival procedure published for pilot use in graphic and/or textual form. STARs provide transition from the en route structure to an outer fix or an instrument approach fix/arrival waypoint in the terminal area.

STANDARD TERMINAL ARRIVAL CHARTS–

(See AERONAUTICAL CHART.)

STANDARD TERMINAL AUTOMATION REPLACEMENT SYSTEM (STARS)–

(See DTAS.)

STAR–

(See STANDARD TERMINAL ARRIVAL.)

STATE AIRCRAFT– Aircraft used in military, customs and police service, in the exclusive service of any government or of any political subdivision thereof, including the government of any state, territory, or possession of the United States or the District of Columbia, but not including any government-owned aircraft engaged in carrying persons or property for commercial purposes.

STATIC RESTRICTIONS– Those restrictions that are usually not subject to change, fixed, in place, and/or published.

STATIONARY AIRSPACE RESERVATION– The term used in oceanic ATC for airspace that encompasses activities in a fixed volume of airspace to be occupied for a specified time period. Stationary Airspace Reservations may include activities such as special tests of weapons systems or equipment; certain U.S. Navy carrier, fleet, and anti–submarine operations; rocket, missile, and drone operations; and certain aerial refueling or similar operations.

(See STATIONARY ALTITUDE RESERVATION.)

STATIONARY ALTITUDE RESERVATION (STATIONARY ALTRV)– An altitude reservation which encompasses activities in a fixed volume of airspace to be occupied for a specified time period. Stationary ALTRVs may include activities such as special tests of weapons systems or equipment; certain U.S. Navy carrier, fleet, and anti–submarine operations; rocket, missile, and drone operations; and certain aerial refueling or similar operations.

STEP TAXI– To taxi a float plane at full power or high RPM.

STEP TURN– A maneuver used to put a float plane in a planing configuration prior to entering an active sea lane for takeoff. The STEP TURN maneuver should only be used upon pilot request.

STEPDOWN FIX– A fix permitting additional descent within a segment of an instrument approach procedure by identifying a point at which a controlling obstacle has been safely overflown.

STEREO ROUTE– A routinely used route of flight established by users and ARTCCs identified by a coded name; e.g., ALPHA 2. These routes minimize flight plan handling and communications.

STNR ALT RESERVATION– An abbreviation for Stationary Altitude Reservation commonly used in NOTAMs.

(See STATIONARY ALTITUDE RESERVATION.)

STOL AIRCRAFT–

(See SHORT TAKEOFF AND LANDING AIRCRAFT.)

STOP ALTITUDE SQUAWK– Used by ATC to instruct a pilot to turn off the automatic altitude reporting feature of the aircraft transponder and ADS–B Out. It is issued when a verbally reported altitude varies by 300 feet or more from the automatic altitude report.

(See ALTITUDE READOUT.)

(See TRANSPONDER.)

STOP AND GO– A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point.

(See LOW APPROACH.)

(See OPTION APPROACH.)

STOP BURST–

(See STOP STREAM.)

STOP BUZZER–

(See STOP STREAM.)

STOP SQUAWK (Mode or Code)– Used by ATC to instruct a pilot to stop transponder and ADS–B transmissions, or to turn off only specified functions of the aircraft transponder (military).

(See STOP ALTITUDE SQUAWK.)

(See TRANSPONDER.)

STOP STREAM– Used by ATC to request a pilot to suspend electronic attack activity.

(See JAMMING.)

STOPOVER FLIGHT PLAN– A flight plan format which permits in a single submission the filing of a sequence of flight plans through interim full-stop destinations to a final destination.

STOPWAY– An area beyond the takeoff runway no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

TEMPORARY FLIGHT RESTRICTION (TFR)– A TFR is a regulatory action issued by the FAA via the U.S. NOTAM System, under the authority of United States Code, Title 49. TFRs are issued within the sovereign airspace of the United States and its territories to restrict certain aircraft from operating within a defined area on a temporary basis to protect persons or property in the air or on the ground. While not all inclusive, TFRs may be issued for disaster or hazard situations such as: toxic gas leaks or spills, fumes from flammable agents, aircraft accident/incident sites, aviation or ground resources engaged in wildfire suppression, or aircraft relief activities following a disaster. TFRs may also be issued in support of VIP movements, for reasons of national security; or when determined necessary for the management of air traffic in the vicinity of aerial demonstrations or major sporting events. NAS users or other interested parties should contact a FSS for TFR information. Additionally, TFR information can be found in automated briefings, NOTAM publications, and on the internet at <http://www.faa.gov>. The FAA also distributes TFR information to aviation user groups for further dissemination.

TERMINAL AREA– A general term used to describe airspace in which approach control service or airport traffic control service is provided.

TERMINAL AREA FACILITY– A facility providing air traffic control service for arriving and departing IFR, VFR, Special VFR, and on occasion en route aircraft.

(See APPROACH CONTROL FACILITY.)

(See TOWER.)

TERMINAL AUTOMATION SYSTEMS (TAS)– TAS is used to identify the numerous automated tracking systems including STARS and MEARTS.

TERMINAL DATA LINK SYSTEM (TDLS)– A system that provides Digital Automatic Terminal Information Service (D-ATIS) both on a specified radio frequency and also, for subscribers, in a text message via data link to the cockpit or to a gate printer. TDLS also provides Pre-departure Clearances (PDC), at selected airports, to subscribers, through a service provider, in text to the cockpit or to a gate printer. In addition, TDLS will emulate the Flight Data Input/Output (FDIO) information within the control tower.

TERMINAL FLIGHT DATA MANAGER (TFDM)– An integrated tower flight data automation system to provide improved airport surface and terminal airspace management. TFDM enhances traffic flow management data integration with Time-Based Flow Management (TBFM) and Traffic Flow Management System (TFMS) to enable airlines, controllers, and airports to share and exchange real-time data. This improves surface traffic management and enhances capabilities of TFMS and TBFM. TFDM assists the Tower personnel with surface Traffic Flow Management (TFM) and Collaborative Decision Making (CDM) and enables a fundamental change in the Towers from a local airport-specific operation to a NAS-connected metering operation. The single platform consolidates multiple Tower automation systems, including: Departure Spacing Program (DSP), Airport Resource Management Tool (ARMT), Electronic Flight Strip Transfer System (EFSTS), and Surface Movement Advisor (SMA). TFDM data, integrated with other FAA systems such as TBFM and TFMS, allows airlines, controllers, and airports to manage the flow of aircraft more efficiently through all phases of flight from departure to arrival gate.

TERMINAL RADAR SERVICE AREA– Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing, and separation on a full-time basis for all IFR and participating VFR aircraft. The AIM contains an explanation of TRSA. TRSAs are depicted on VFR aeronautical charts. Pilot participation is urged but is not mandatory.

TERMINAL SEQUENCING AND SPACING (TSAS)– Extends scheduling and metering capabilities into the terminal area and provides metering automation tools to terminal controllers and terminal traffic management personnel. Those controllers and traffic management personnel become active participants in time-based metering operations as they work to deliver aircraft accurately to Constraint Satisfaction Points within terminal airspace to include the runway in accordance with scheduled times at those points. Terminal controllers are better able to utilize efficient flight paths, such as Standard Instrument Approach Procedures (SIAPs) that require a Navigational Specification (NavSpec) of RNP APCH with Radius-to-Fix (RF) legs, or Advanced RNP

(A-RNP), through tools that support the merging of mixed-equipage traffic flows. For example, merging aircraft flying RNP APCH AR with RF, A-RNP, and non-RNP approach procedures. Additional fields in the flight plan will identify those flights capable of flying the RNP APCH with RF or A-RNP procedures, and those flights will be scheduled for those types of procedures when available. TSAS will schedule these and the non-RNP aircraft to a common merge point. Terminal traffic management personnel have improved situation awareness using displays that allow for the monitoring of terminal metering operations, similar to the displays used today by center traffic management personnel to monitor en route metering operations.

TERMINAL VFR RADAR SERVICE– A national program instituted to extend the terminal radar services provided instrument flight rules (IFR) aircraft to visual flight rules (VFR) aircraft. The program is divided into four types service referred to as basic radar service, terminal radar service area (TRSA) service, Class B service and Class C service. The type of service provided at a particular location is contained in the Chart Supplement.

a. Basic Radar Service– These services are provided for VFR aircraft by all commissioned terminal radar facilities. Basic radar service includes safety alerts, traffic advisories, limited radar vectoring when requested by the pilot, and sequencing at locations where procedures have been established for this purpose and/or when covered by a letter of agreement. The purpose of this service is to adjust the flow of arriving IFR and VFR aircraft into the traffic pattern in a safe and orderly manner and to provide traffic advisories to departing VFR aircraft.

b. TRSA Service– This service provides, in addition to basic radar service, sequencing of all IFR and participating VFR aircraft to the primary airport and separation between all participating VFR aircraft. The purpose of this service is to provide separation between all participating VFR aircraft and all IFR aircraft operating within the area defined as a TRSA.

c. Class C Service– This service provides, in addition to basic radar service, approved separation between IFR and VFR aircraft, and sequencing of VFR aircraft, and sequencing of VFR arrivals to the primary airport.

d. Class B Service– This service provides, in addition to basic radar service, approved separation of aircraft based on IFR, VFR, and/or weight, and sequencing of VFR arrivals to the primary airport(s).

(See CONTROLLED AIRSPACE.)

(See TERMINAL RADAR SERVICE AREA.)

(Refer to AIM.)

(Refer to CHART SUPPLEMENT U.S.)

TERMINAL-VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION (TVOR)– A very high frequency terminal omnirange station located on or near an airport and used as an approach aid.

(See NAVIGATIONAL AID.)

(See VOR.)

TERRAIN AWARENESS WARNING SYSTEM (TAWS)– An on-board, terrain proximity alerting system providing the aircrew ‘Low Altitude warnings’ to allow immediate pilot action.

TERRAIN FOLLOWING– The flight of a military aircraft maintaining a constant AGL altitude above the terrain or the highest obstruction. The altitude of the aircraft will constantly change with the varying terrain and/or obstruction.

TETRAHEDRON– A device normally located on uncontrolled airports and used as a landing direction indicator. The small end of a tetrahedron points in the direction of landing. At controlled airports, the tetrahedron, if installed, should be disregarded because tower instructions supersede the indicator.

(See SEGMENTED CIRCLE.)

(Refer to AIM.)

TF–

(See TERRAIN FOLLOWING.)

TFDM–

(See TERMINAL FLIGHT DATA MANAGER.)

TGUI–

(See TIMELINE GRAPHICAL USER INTERFACE.)

THAT IS CORRECT– The understanding you have is right.

THA–

(See TRANSITIONAL HAZARD AREA.)

THE RECREATIONAL UAS SAFETY TEST (TRUST)– The electronically administered free test required for all recreational UAS operators referred to as the aeronautical knowledge and safety test, under 49 USC §44809 (g).

THREE-HOUR TARMAC RULE– Rule that relates to Department of Transportation (DOT) requirements placed on airlines when tarmac delays are anticipated to reach 3 hours.

360 OVERHEAD–

(See OVERHEAD MANEUVER.)

THRESHOLD– The beginning of that portion of the runway usable for landing.

(See AIRPORT LIGHTING.)

(See DISPLACED THRESHOLD.)

THRESHOLD CROSSING HEIGHT– The theoretical height above the runway threshold at which the aircraft's glideslope antenna would be if the aircraft maintains the trajectory established by the mean ILS glideslope or the altitude at which the calculated glidepath of an RNAV or GPS approaches.

(See GLIDESLOPE.)

(See THRESHOLD.)

THRESHOLD LIGHTS–

(See AIRPORT LIGHTING.)

TIE-IN FACILITY– The FSS primarily responsible for providing FSS services, including telecommunication services for landing facilities or navigational aids located within the boundaries of a flight plan area (FPA). Three-letter identifiers are assigned to each FSS/FPA and are annotated as tie-in facilities in the Chart Supplement and FAA Order JO 7350.9, Location Identifiers. Large consolidated FSS facilities may have many tie-in facilities or FSS sectors within one facility.

(See FLIGHT PLAN AREA.)

(See FLIGHT SERVICE STATION.)

TIME-BASED FLOW MANAGEMENT (TBFM)– A foundational Decision Support Tool for time-based management in the en route and terminal environments. TBFM's core function is the ability to schedule aircraft within a stream of traffic to reach a defined constraint point (e.g., meter fix/meter arc) at specified times, creating a time-ordered sequence of traffic. The scheduled times allow for merging of traffic flows, efficiently utilizing airport and airspace capacity while minimizing coordination and reducing the need for vectoring/holding. The TBFM schedule is calculated using current aircraft estimated time of arrival at key defined constraint points based on wind forecasts, aircraft flight plan, the desired separation at the constraint point and other parameters. The schedule applies spacing only when needed to maintain the desired separation at one or more constraint points. This includes, but is not limited to, Single Center Metering (SCM), Adjacent Center Metering (ACM), En Route Departure Capability (EDC), Integrated Departure/Arrival Capability (IDAC), Ground-based Interval Management–Spacing (GIM–S), Departure Scheduling, and Extended/Coupled Metering.

TIME-BASED MANAGEMENT (TBM)– A methodology for managing the flow of air traffic through the assignment of time at specific points for an aircraft. TBM applies time to manage and condition air traffic flows to mitigate demand/capacity imbalances and enhance efficiency and predictability of the NAS. Where implemented, TBM tools will be used to manage traffic even during periods when demand does not exceed capacity. This will sustain operational predictability and assure the regional/national strategic plan is maintained. TBM uses capabilities within TFMS, TBFM, and TFDM. These programs are designed to achieve a specified interval between aircraft. Different types of programs accommodate different phases of flight.

TIME GROUP– Four digits representing the hour and minutes from the Coordinated Universal Time (UTC) clock. FAA uses UTC for all operations. The term “ZULU” may be used to denote UTC. The word “local” or

the time zone equivalent shall be used to denote local when local time is given during radio and telephone communications. When written, a time zone designator is used to indicate local time; e.g., “0205M” (Mountain). The local time may be based on the 24-hour clock system. The day begins at 0000 and ends at 2359.

TIMELINE GRAPHICAL USER INTERFACE (TGUI)– A TBFM display that uses timelines to display the Estimated Time of Arrival and Scheduled Time of Arrival of each aircraft to specified constraint points. The TGUI can also display pre-departure and scheduled aircraft.

TIS-B–

(See **TRAFFIC INFORMATION SERVICE–BROADCAST**.)

TMI–

(See **TRAFFIC MANAGEMENT INITIATIVE**.)

TMPA–

(See **TRAFFIC MANAGEMENT PROGRAM ALERT**.)

TMU–

(See **TRAFFIC MANAGEMENT UNIT**.)

TOD–

(See **TOP OF DESCENT**.)

TODA–

(See **TAKEOFF DISTANCE AVAILABLE**.)

(See ICAO term **TAKEOFF DISTANCE AVAILABLE**.)

TOI–

(See **TRACK OF INTEREST**.)

TOP ALTITUDE– In reference to SID published altitude restrictions, the charted “maintain” altitude contained in the procedure description or assigned by ATC.

TOP OF DESCENT (TOD)– The point at which an aircraft begins the initial descent.

TORA–

(See **TAKEOFF RUN AVAILABLE**.)

(See ICAO term **TAKEOFF RUN AVAILABLE**.)

TORCHING– The burning of fuel at the end of an exhaust pipe or stack of a reciprocating aircraft engine, the result of an excessive richness in the fuel air mixture.

TOS–

(See **TRAJECTORY OPTIONS SET**.)

TOTAL ESTIMATED ELAPSED TIME [ICAO]– For IFR flights, the estimated time required from takeoff to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from takeoff to arrive over the destination aerodrome.

(See ICAO term **ESTIMATED ELAPSED TIME**.)

TOUCH-AND-GO– An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway.

TOUCH-AND-GO LANDING–

(See **TOUCH-AND-GO**.)

TOUCHDOWN–

a. The point at which an aircraft first makes contact with the landing surface.

b. Concerning a precision radar approach (PAR), it is the point where the glide path intercepts the landing surface.

(See ICAO term TOUCHDOWN.)

TOUCHDOWN [ICAO]– The point where the nominal glide path intercepts the runway.

Note: Touchdown as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.

TOUCHDOWN RVR–

(See VISIBILITY.)

TOUCHDOWN ZONE– The first 3,000 feet of the runway beginning at the threshold. The area is used for determination of Touchdown Zone Elevation in the development of straight-in landing minimums for instrument approaches.

(See ICAO term TOUCHDOWN ZONE.)

TOUCHDOWN ZONE [ICAO]– The portion of a runway, beyond the threshold, where it is intended landing aircraft first contact the runway.

TOUCHDOWN ZONE ELEVATION– The highest elevation in the first 3,000 feet of the landing surface. TDZE is indicated on the instrument approach procedure chart when straight-in landing minimums are authorized.

(See TOUCHDOWN ZONE.)

TOUCHDOWN ZONE LIGHTING–

(See AIRPORT LIGHTING.)

TOWER– A terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services (radar or nonradar).

(See AIRPORT TRAFFIC CONTROL SERVICE.)

(See APPROACH CONTROL FACILITY.)

(See APPROACH CONTROL SERVICE.)

(See MOVEMENT AREA.)

(See TOWER EN ROUTE CONTROL SERVICE.)

(See ICAO term AERODROME CONTROL TOWER.)

(Refer to AIM.)

TOWER EN ROUTE CONTROL SERVICE– The control of IFR en route traffic within delegated airspace between two or more adjacent approach control facilities. This service is designed to expedite traffic and reduce control and pilot communication requirements.

TOWER TO TOWER–

(See TOWER EN ROUTE CONTROL SERVICE.)

TRACEABLE PRESSURE STANDARD– The facility station pressure instrument, with certification/calibration traceable to the National Institute of Standards and Technology. Traceable pressure standards may be mercurial barometers, commissioned ASOS or dual transducer AWOS, or portable pressure standards or DASI.

TRACK– The actual flight path of an aircraft over the surface of the earth.

(See COURSE.)

(See FLIGHT PATH.)

(See ROUTE.)

(See ICAO term TRACK.)

TRACK [ICAO]– The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (True, Magnetic, or Grid).

TRACK OF INTEREST (TOI)– Displayed data representing an airborne object that threatens or has the potential to threaten North America or National Security. Indicators may include, but are not limited to: noncompliance with air traffic control instructions or aviation regulations; extended loss of communications; unusual transmissions or unusual flight behavior; unauthorized intrusion into controlled airspace or an ADIZ; noncompliance with issued flight restrictions/security procedures; or unlawful interference with airborne flight crews, up to and including hijack. In certain circumstances, an object may become a TOI based on specific and credible intelligence pertaining to that particular aircraft/object, its passengers, or its cargo.

TRACK OF INTEREST RESOLUTION– A TOI will normally be considered resolved when: the aircraft/object is no longer airborne; the aircraft complies with air traffic control instructions, aviation regulations, and/or issued flight restrictions/security procedures; radio contact is re-established and authorized control of the aircraft is verified; the aircraft is intercepted and intent is verified to be nonthreatening/nonhostile; TOI was identified based on specific and credible intelligence that was later determined to be invalid or unreliable; or displayed data is identified and characterized as invalid.

TRAFFIC–

a. A term used by a controller to transfer radar identification of an aircraft to another controller for the purpose of coordinating separation action. Traffic is normally issued:

1. In response to a handoff or point out,
2. In anticipation of a handoff or point out, or
3. In conjunction with a request for control of an aircraft.

b. A term used by ATC to refer to one or more aircraft.

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

- a.** Visual observation.
- b.** Observation of radar identified and nonidentified aircraft targets on an ATC radar display, or
- c.** Verbal reports from pilots or other facilities.

Note 1: The word “traffic” followed by additional information, if known, is used to provide such advisories; e.g., “Traffic, 2 o’clock, one zero miles, southbound, eight thousand.”

Note 2: Traffic advisory service will be provided to the extent possible depending on higher priority duties of the controller or other limitations; e.g., radar limitations, volume of traffic, frequency congestion, or controller workload. Radar/ nonradar traffic advisories do not relieve the pilot of his/her responsibility to see and avoid other aircraft. Pilots are cautioned that there are many times when the controller is not able to give traffic advisories concerning all traffic in the aircraft’s proximity; in other words, when a pilot requests or is receiving traffic advisories, he/she should not assume that all traffic will be issued.

(Refer to AIM.)

TRAFFIC ALERT (aircraft call sign), TURN (left/right) IMMEDIATELY, (climb/descend) AND MAINTAIN (altitude).

(See SAFETY ALERT.)

TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS)– An airborne collision avoidance system based on radar beacon signals which operates independent of ground-based equipment. TCAS-I generates traffic advisories only. TCAS-II generates traffic advisories, and resolution (collision avoidance) advisories in the vertical plane.

TRAFFIC INFORMATION–

(See TRAFFIC ADVISORIES.)

TRAFFIC INFORMATION SERVICE–BROADCAST (TIS–B)– The broadcast of ATC derived traffic information to ADS–B equipped (1090ES or UAT) aircraft. The source of this traffic information is derived from

U

UAM–

(See URBAN AIR MOBILITY.)

UAS FACILITY MAP (UASFM)– Defined grid squares showing maximum altitudes around airports where the FAA may authorize Part 107 sUAS operations without additional safety analysis. The maps should be consulted prior to conducting UAS operations (Part 91, Part 107 or Section 44809) in controlled airspace. The UASFM will aid in determining if the airspace authorization or waivers are necessary. UASFM(s) are charted on the UAS Data Delivery System (UDDS) at the following website address: <https://faa.maps.arcgis.com/apps/webappviewer/index.html?id=9c2e4406710048e19806ebf6a06754ad>.

UAS TEST SITE– Independently owned UAS test & research sites, recognized by the FAA.

UAS TRAFFIC MANAGEMENT (UTM)–The unmanned aircraft traffic management ecosystem that will allow multiple low altitude BVLOS operations and which is separate from, but complementary to, FAA’s Air Traffic Control System.

UASFM–

(See UAS FACILITY MAP.)

UHF–

(See ULTRAHIGH FREQUENCY.)

ULTRAHIGH FREQUENCY (UHF)– The frequency band between 300 and 3,000 MHz. The bank of radio frequencies used for military air/ground voice communications. In some instances this may go as low as 225 MHz and still be referred to as UHF.

ULTRALIGHT VEHICLE– A single-occupant aeronautical vehicle operated for sport or recreational purposes which does not require FAA registration, an airworthiness certificate, or pilot certification. Operation of an ultralight vehicle in certain airspace requires authorization from ATC.

(Refer to 14 CFR Part 103.)

UNABLE– Indicates inability to comply with a specific instruction, request, or clearance.

UNASSOCIATED– A radar target that does not display a data block with flight identification and altitude information.

(See ASSOCIATED.)

UNCONTROLLED AIRSPACE– Airspace in which aircraft are not subject to controlled airspace (Class A, B, C, D, or E) separation criteria.

UNDER THE HOOD– Indicates that the pilot is using a hood to restrict visibility outside the cockpit while simulating instrument flight. An appropriately rated pilot is required in the other control seat while this operation is being conducted.

(Refer to 14 CFR Part 91.)

UNFROZEN– The Scheduled Time of Arrival (STA) tags, which are still being rescheduled by the time-based flow management (TBFM) calculations. The aircraft will remain unfrozen until the time the corresponding estimated time of arrival (ETA) tag passes the preset freeze horizon for that aircraft’s stream class. At this point the automatic rescheduling will stop, and the STA becomes “frozen.”

UNICOM– A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOMs are shown on aeronautical charts and publications.

(See CHART SUPPLEMENT.)

(Refer to AIM.)

UNMANNED AIRCRAFT (UA)- A device used or intended to be used for flight that has no onboard pilot. This device can be any type of airplane, helicopter, airship, or powered-lift aircraft. Unmanned free balloons, moored balloons, tethered aircraft, gliders, and unmanned rockets are not considered to be a UA.

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

UNPUBLISHED ROUTE- A route for which no minimum altitude is published or charted for pilot use. It may include a direct route between NAVAIDs, a radial, a radar vector, or a final approach course beyond the segments of an instrument approach procedure.

(See PUBLISHED ROUTE.)

(See ROUTE.)

UNRELIABLE (GPS/WAAS)- An advisory to pilots indicating the expected level of service of the GPS and/or WAAS may not be available. Pilots must then determine the adequacy of the signal for desired use.

UNSERVICEABLE (U/S)

(See OUT OF SERVICE/UNSERVICEABLE.)

UPWIND LEG-

(See TRAFFIC PATTERN.)

URBAN AIR MOBILITY (UAM)- A subset of Advanced Air Mobility (AAM), referring to an air transportation system utilizing highly automated aircraft to transport passengers or cargo in urban/suburban areas.

URGENCY- A condition of being concerned about safety and of requiring timely but not immediate assistance; a potential distress condition.

(See ICAO term URGENCY.)

URGENCY [ICAO]- A condition concerning the safety of an aircraft or other vehicle, or of person on board or in sight, but which does not require immediate assistance.

USAFIB-

(See ARMY AVIATION FLIGHT INFORMATION BULLETIN.)

UTM-

(See UAS TRAFFIC MANAGEMENT.)

VORTICES– Circular patterns of air created by the movement of an airfoil through the air when generating lift. As an airfoil moves through the atmosphere in sustained flight, an area of area of low pressure is created above it. The air flowing from the high pressure area to the low pressure area around and about the tips of the airfoil tends to roll up into two rapidly rotating vortices, cylindrical in shape. These vortices are the most predominant parts of aircraft wake turbulence and their rotational force is dependent upon the wing loading, gross weight, and speed of the generating aircraft. The vortices from medium to super aircraft can be of extremely high velocity and hazardous to smaller aircraft.

(See AIRCRAFT CLASSES.)

(See WAKE TURBULENCE.)

(Refer to AIM.)

VOT– A ground facility which emits a test signal to check VOR receiver accuracy. Some VOTs are available to the user while airborne, and others are limited to ground use only.

(See CHART SUPPLEMENT.)

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

VR–

(See VFR MILITARY TRAINING ROUTES.)

VSCS–

(See VOICE SWITCHING AND CONTROL SYSTEM.)

VTOL AIRCRAFT–

(See VERTICAL TAKEOFF AND LANDING AIRCRAFT.)

Index

[References are to page numbers]

A

- ABBREVIATED TRANSMISSION, 4-2-2
- ABBREVIATIONS, 1-2-2
 - Canadian Military Aircraft, Appendix B-3
 - Military Aircraft, Appendix B-2
 - President, Vice President, and Family Call Sign, Appendix B-3
- ACCEPTABLE DATA, 6-1-3
- ACKNOWLEDGING FLIGHT NOTIFICATION MESSAGES, 6-2-15
- ADIZ REQUIREMENTS FOR INBOUND AND OUTBOUND AIRCRAFT, 6-5-1
- Adverse Conditions
 - Briefing Display, 5-3-2
 - Pilot Briefing, 5-2-3
- Advisory Services
 - AIRCRAFT EQUIPMENT CHECKS, 4-3-6
 - AUTHORIZED FREQUENCIES, 4-3-6
 - CHARTS, 4-3-5
 - Density Altitude, 4-3-5
 - DESCRIPTION, 4-3-1
 - ELEMENTS AND PHRASEOLOGY, 4-3-2
 - GENERAL, 4-3-1
 - TRAFFIC CONTROL, 4-3-6
- AERONAUTICAL INFORMATION, 5-3-5
 - ESSENTIALS, 5-3-5
- AERONAUTICAL MOBILE COMMUNICATIONS SERVICE, 6-4-7
- AFIS. *See* Automatic Flight Information Service (AFIS)
- AIRCRAFT BOMB THREATS, 3-2-2
 - Aircraft Colors, Codes, Appendix B-6
- AIRCRAFT EQUIPMENT CHECKS, 4-3-6
- AIRCRAFT EQUIPMENT CODES, 2-5-6
 - Aircraft Equipment Suffixes, Appendix B-4
- AIRCRAFT IDENTIFICATION, 2-5-1
- AIRCRAFT MOVEMENT SERVICES WITHIN AN ADIZ-DVFR, 6-3-2
- AIRCRAFT MOVEMENT SERVICES WITHIN AN ADIZ-IFR, 6-3-1
 - Aircraft Orientation, 3-3-1
 - AIRCRAFT REPORTS (AIREP), 6-4-7
 - AIRCRAFT TYPES, DESCRIPTION, 2-5-5
 - AIRCRAFT-REPORTED NAVIGATIONAL EQUIPMENT MALFUNCTIONS, 4-1-2
 - AIREP. *See* AIRCRAFT REPORTS (AIREP)
 - AIREP SPECIALS, 6-4-10
 - AIRPORT LIGHTING, 4-5-1
 - AIRWAYS AND ROUTES, 2-5-6
 - ALNOT, 3-4-5
 - ACTION UPON RECEIPT, 3-4-5
 - CANCELLATION OF, 3-4-6
 - REPORTING ALNOT STATUS TO RCC, 3-4-6
 - ALTITUDE CHANGE FOR IMPROVED RECEPTION, 3-2-1
 - AMCS. *See* AERONAUTICAL MOBILE COMMUNICATIONS SERVICE
 - ANNOTATIONS, 1-2-2
 - ARRIVAL/MISSED APPROACH REPORTS, 4-2-6
 - ARS. *See* AIREP SPECIALS
 - ATC CLEARANCES, ADVISORIES, OR REQUESTS, 4-2-5
 - ATS MESSAGES, 6-4-1
 - CATEGORIES, 6-4-2
 - TRANSMISSION OF, 6-4-3
 - AUTHORIZED FREQUENCIES, 4-3-6
 - AUTHORIZED TRANSMISSIONS, 4-2-1
 - Automatic Flight Information Service (AFIS), 4-4-1
 - FORMAT, 4-4-1
 - GENERAL, 4-4-1
 - Aviation Weather Cameras, 8-3-1
 - AVAILABILITY, 8-3-1
 - DESCRIPTION, 8-3-1
 - FAA's AVIATION WEATHER CAMERA WEBSITE, 8-3-1
 - GENERAL, 8-3-1
 - AVIATION WEATHER INFORMATION, 5-3-1
 - AWAITING MESSAGE ACKNOWLEDGMENT, 6-2-15

[References are to page numbers]**B**

BOMB THREATS, 3-2-2
 Briefing Display, 5-3-1
 AERONAUTICAL INFORMATION, 5-3-5
 AERONAUTICAL INFORMATION
 ESSENTIALS, 5-3-5
 AVIATION WEATHER INFORMATION, 5-3-1
 WEATHER INFORMATION ESSENTIALS,
 5-3-2
 BRIEFING, TYPE TO BE DELIVERED, 5-2-1
 BRIEFINGS, DELIVERY OF
 ABBREVIATED, 5-2-6
 OUTLOOK, 5-2-6
 STANDARD, 5-2-2
 BROADCAST (BLIND TRANSMISSION) OF
 MESSAGES, 4-2-7

C

Canadian Movement and Control Messages
 (Transborder Flights Only), 6-6-1
 IFR FLIGHT PLANS DEPARTING CANADI-
 AN AIRPORTS , 6-6-2
 INBOUNDS FROM CANADA, 6-6-1
 OUTBOUNDS TO CANADA, 6-6-1
 OUTBOUNDS TO CANADA DEPARTING
 FROM OUTSIDE FLIGHT PLAN AREA ,
 6-6-2
 CANADIAN TRANSBORDER FLIGHTS, 3-5-3
 CHANGE IN ETA, 6-2-17
 Changes, Recommendation for Procedural, 1-1-2
 CHANGING LIGHTED RUNWAYS, 4-5-1
 CHARTS, 4-3-5
 COMMUNICATIONS SEARCH, 3-4-2
 COMMUNICATIONS SERVICES, 6-1-2
 Control Information Symbols, 4-1-10, 4-1-11
 CONTROL MESSAGES, 6-2-4
 Customs Notifications and ADIZ Requirements,
 6-5-1
 ADIZ REQUIREMENTS FOR INBOUND AND
 OUTBOUND AIRCRAFT, 6-5-1
 CUSTOMS REQUIREMENTS FOR INBOUND
 AND OUTBOUND AIRCRAFT, 6-5-1

FLIGHT PLAN/CUSTOMS REQUIREMENTS,
 6-5-1

Flight Data Services, Customs Notifications and
 ADIZ Requirements, 6-5-1

CUSTOMS REQUIREMENTS FOR INBOUND
 AND OUTBOUND AIRCRAFT, 6-5-1

D

DELIVERY DATES, 1-1-2
 Density Altitude, 5-2-4
 DEPARTURE MESSAGES, 6-2-13
 DEPARTURE REPORTS, 4-2-6
 DISTRIBUTION, 1-1-2
 DUTY PRIORITY, 2-1-1

E

EFFECTIVE DATES OF THIS ORDER, 1-1-1
 ELT SIGNALS, 3-2-2
 EMERGENCY DETERMINATION, 3-1-1
 EMERGENCY SECURITY CONTROL OF AIR
 TRAFFIC (ESCAT), 3-2-5
 Emergency Services, 3-1-1
 Aircraft Orientation, 3-3-1
 ACTIONS REQUIRED, 3-3-1
 AUTOMATIC DIRECTION FINDER, 3-3-2
 GENERAL, 3-3-1
 GLOBAL POSITIONING SYSTEM (GPS),
 3-3-5
 GUIDANCE TO AIRPORT, 3-3-5
 SAFE ALTITUDES FOR ORIENTATIONS,
 3-3-1
 VOR CROSS-FIX, 3-3-3
 ALERTING PHASES, 3-5-1
 Emergency Assistance, 3-2-1
 AIRCRAFT BOMB THREATS, 3-2-2
 ALTITUDE CHANGE FOR IMPROVED RE-
 CEPTION, 3-2-1
 ELT SIGNALS, 3-2-2
 EMERGENCY SECURITY CONTROL OF
 AIR TRAFFIC (ESCAT), 3-2-5
 EXPLOSIVE CARGO, 3-2-4
 EXPLOSIVE DETECTION K-9 TEAMS,
 3-2-4

[References are to page numbers]

FREQUENCY CHANGES, 3-2-1
 IN-FLIGHT EQUIPMENT MALFUNCTIONS, 3-2-4
 INFORMATION REQUIREMENTS, 3-2-1
 MINIMUM FUEL, 3-2-5
 SUSPICIOUS UNMANNED AIRCRAFT ACTIVITY, 3-2-5
 VFR AIRCRAFT IN WEATHER DIFFICULTY, 3-2-1
 General, 3-1-1
 COORDINATION, 3-1-2
 EMERGENCY DETERMINATION, 3-1-1
 OBTAINING INFORMATION, 3-1-1
 PROVIDING ASSISTANCE, 3-1-1
 RECORDING INFORMATION, 3-1-2
 RESPONSIBILITY, 3-1-2
 International SAR, 3-5-1
 ALERTING MESSAGE CONTENTS, 3-5-2
 ALERTING SERVICE, 3-5-1
 CANADIAN TRANSBORDER FLIGHTS, 3-5-3
 MEXICAN TRANSBORDER FLIGHTS, 3-5-3
 Overdue Aircraft, 3-4-1
 ALNOT, 3-4-5
 ACTION UPON RECEIPT, 3-4-5
 CANCELLATION OF, 3-4-6
 REPORTING ALNOT STATUS TO RCC, 3-4-6
 COMMUNICATIONS SEARCH, 3-4-2
 INREQ, 3-4-3
 ACTION UPON RECEIPT, 3-4-4
 CANCELLATION OF, 3-4-5
 OVERDUE AIRCRAFT NOT ON a FLIGHT PLAN, 3-4-2
 OVERDUE AIRCRAFT ON A FLIGHT PLAN, 3-4-1
 QALQ, 3-4-2
 ACTION BY DEPARTURE STATION ON RECEIPT, 3-4-3
 CANCELLATION OF, 3-4-3
 RESPONSIBILITY, 3-4-1
 EQUIPMENT MALFUNCTIONS, 3-2-4
 ESCAT. *See* EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT)
 EXPLANATION OF CHANGES, 1-1-1
 EXPLOSIVE CARGO, 3-2-4
 EXPLOSIVE DETECTION K-9 TEAMS, 3-2-4

F

FAA Form 7233-1, Appendix B-1
 FAA Form 7233-4, Appendix A-1
 FAA Forms, Other, Appendix C-1
 FAA Form 7230-21 Flight Progress Strips – FSS, Appendix C-2
 Inflight Contact Record, Appendix C-1
 Position Logs, Appendix C-3
 FACILITY IDENTIFICATION, 2-5-1
 Flight Data Services, 6-1-1
 COMMUNICATIONS SERVICES, 6-1-2
 DESCRIPTION, 6-1-1
 Flight Plan Handling, 6-2-1
 GROUP CODES, 6-1-3
 International Operations and Messages, 6-4-1
 MESSAGE FORMATS, 6-1-5
 Military Operations, 6-3-1
 Movement and Control Messages (Transborder Flights Only), Canadian, 6-6-1
 Movement and Control Messages (Transborder Flights Only), Mexican, 6-7-1
 PART-TIME FSS CLOSURE ACTION, 6-1-2
 PRIORITY MESSAGE, 6-1-3
 Q SIGNALS, 6-1-5
 RECORDING FLIGHT DATA INFORMATION, 6-1-1
 TELEPHONE REQUESTS FOR ATC CLEARANCES, 6-1-2
 TYPES OF ACCEPTABLE DATA, 6-1-3
 WMSCR NEGATIVE RESPONSE MESSAGES, 6-1-5
 Flight Plan, Appendix B-1
 FLIGHT PLAN ACTIVATION, 6-2-13
 FLIGHT PLAN CHANGES AND CANCELLATIONS, 6-4-7
 FLIGHT PLAN CHANGES FROM EN ROUTE AIRCRAFT, 6-2-16
 FLIGHT PLAN CLOSURE, 6-2-17
 FLIGHT PLAN FORMS AND INSTRUCTIONS, 6-4-5
 Flight Plan Handling, 6-2-1
 ACKNOWLEDGING FLIGHT NOTIFICATION MESSAGES, 6-2-15
 ACTION BY ADDRESSEES, 6-2-16
 ADDITIONAL MESSAGES, 6-2-10
 AWAITING MESSAGE ACKNOWLEDGMENT, 6-2-15

[References are to page numbers]

CHANGE IN ETA, 6-2-17
 CONTROL MESSAGES, 6-2-4
 COORDINATE RNAV ROUTES, 6-2-13
 DEPARTURE MESSAGES, 6-2-13
 FLIGHT PLAN ACTIVATION, 6-2-13
 FLIGHT PLAN CLOSURE, 6-2-17
 FLIGHT PLAN RECORDING, 6-2-1
 MAJOR FLIGHT PLAN CHANGES FROM EN
 ROUTE AIRCRAFT, 6-2-16
 NOTIFYING ARTCC, 6-2-2
 FLIGHT PLAN RECORDING, 6-2-1
 FLIGHT PROGRESS STRIPS AND ENTRY
 DATA, 4-1-6
 FLIGHT SERVICE, 2-1-1
 FORWARDING DVFR INFORMATION, 6-3-2
 FREQUENCY CHANGES, 3-2-1
 FREQUENCY USE, 4-2-1
 Future FAA Weather Services, 8-4-1

G

General Control, 2-1-1
 GLOBAL POSITIONING SYSTEM (GPS), 3-3-5
 GPS. *See* Global Positioning System (GPS)
 GROUP CODES, 6-1-3

H

Hand-Printed Character Chart, 4-1-6

I

ICAO ATS MESSAGE FORMAT, 6-4-6
 ICAO PHONETICS, 2-3-1
 IFR FLIGHT PROGRESS REPORTS, 4-2-6
 In-Flight Services, 4-1-1
 Advisory Services, 4-3-1
 AIRCRAFT-REPORTED NAVIGATIONAL
 EQUIPMENT MALFUNCTIONS, 4-1-2
 Airport Lighting and Visibility Aids, 4-5-1

CHANGING LIGHTED RUNWAYS, 4-5-1
 OPERATION OF LANDING DIRECTION
 INDICATOR, 4-5-2
 RVR, 4-5-1
 Automatic Flight Information Service (AFIS),
 4-4-1
 DESCRIPTION, 4-1-1
 FLIGHT PROGRESS STRIPS AND ENTRY
 DATA, 4-1-6
 IN-FLIGHT WEATHER BRIEFINGS, 4-1-2
 OPERATIONAL PRIORITY, 4-1-1
 PRE-DUTY REQUIREMENTS, 4-1-1
 Radio Communications, 4-2-1
 RECORDING IN-FLIGHT INFORMATION,
 4-1-3
 Special VFR Operations, 4-6-3
 IN-FLIGHT WEATHER BRIEFINGS, 4-1-2
 INREQ, 3-4-3
 ACTION UPON RECEIPT, 3-4-4
 CANCELLATION OF, 3-4-5
 International Cautionary Advisory, 5-2-2
 International Flight Plan, Appendix A-1
 International Operations and Messages, 6-4-1,
 6-4-7
 ADDRESSING MESSAGES, 6-4-5
 AERONAUTICAL MOBILE COMMUNICA-
 TIONS SERVICE, 6-4-7
 AIREP SPECIALS (ARS), 6-4-10
 ARTCC RELAY OF VFR MESSAGES , 6-4-10
 ATS MESSAGES, 6-4-1
 CATEGORIES OF ATS MESSAGES, 6-4-2
 FLIGHT PLAN CHANGES AND CANCELLA-
 TIONS , 6-4-7
 FLIGHT PLAN FORMS AND INSTRUC-
 TIONS , 6-4-5
 ICAO ATS MESSAGE FORMAT, 6-4-6
 ORIGINATING MESSAGES, 6-4-4
 SERVICE MESSAGES, 6-4-2
 TRANSMISSION OF ATS MESSAGES , 6-4-3
 TRANSMISSION VIA NADIN, 6-4-3
 Interphone Communications, 2-2-1
 GENERAL, 2-2-1
 MESSAGE INITIATION, 2-2-1
 MESSAGE TERMINATION, 2-2-2
 PRIORITY INTERRUPTION, 2-2-1
 TRANSMISSION PRIORITIES, 2-2-1

[References are to page numbers]**L**

LAA. *See* Local Airport Advisory (LAA)
 LANDING DIRECTION INDICATOR, 4-5-2
 Local Airport Advisory (LAA), 4-3-1
 LOGGING BRIEFINGS, 5-2-1

M

Mexican Movement and Control Messages
 (Transborder Flights Only), 6-7-1
 INBOUNDS FROM MEXICO, 6-7-1
 OUTBOUNDS TO MEXICO, 6-7-1
 MEXICAN TRANSBORDER FLIGHTS, 3-5-3
 MILITARY FOREIGN FLIGHTS, 6-3-1
 Military Operations, 6-3-1
 AIRCRAFT MOVEMENT SERVICES WITHIN
 AN ADIZ-DVFR, 6-3-2
 AIRCRAFT MOVEMENT SERVICES WITHIN
 AN ADIZ-IFR, 6-3-1
 FORWARDING DVFR INFORMATION, 6-3-2
 MESSAGE HANDLING, 6-3-1
 MILITARY FOREIGN FLIGHTS, 6-3-1
 SPECIAL MILITARY FLIGHTS, 6-3-1
 STOPOVER DVFR FLIGHT PLANS, 6-3-3
 U.S. AIR FORCE/U.S. NAVY UNDERGRADU-
 ATE PILOTS, 6-3-1
 MINIMUM FUEL, 3-2-5

N

NADIN, TRANSMISSION VIA, 6-4-3
 NAVAID TERMS AND FIXES, 2-5-7
 NONAVIATION WEATHER SERVICES, 8-2-1
 NON-DELIVERY OF MESSAGES, 4-2-6
 NON-EMERGENCY PARACHUTE JUMPIN,
 4-2-7
 NOTAM Services, 7-1-1
 General, 7-1-1
 ACCOUNTABILITY, 7-1-1
 DESCRIPTION, 7-1-1
 SYSTEM OUTAGES, 7-1-1
 NOTAM Handling, 7-2-1

RECORDING NOTAM INFORMATION,
 7-2-2
 RESPONSIBILITY, 7-2-1

NOTES, 1-2-2
 NOTIFYING ARTCC, 6-2-2

O

OPERATIONAL PRIORITY, 4-1-1
 Overdue Aircraft, 3-4-1

P

PART-TIME FSS CLOSURE ACTION, 6-1-2

PHRASEOLOGY, 2-4-1
 Advisory Services, 4-3-2
 Aviation, 2-5-1

AIRCRAFT EQUIPMENT CODES, 2-5-6
 AIRCRAFT IDENTIFICATION, 2-5-1
 AIRWAYS AND ROUTES, 2-5-6
 DESCRIPTION OF AIRCRAFT TYPES,
 2-5-5
 FACILITY IDENTIFICATION, 2-5-1
 NAVAID TERMS AND FIXES, 2-5-7
 RELAY OF ATC COMMUNICATIONS,
 2-5-1
 RUNWAY CONDITIONS, 2-5-8

Density Altitude, 4-3-5
 General, 2-3-1

EXPEDITIOUS COMPLIANCE, 2-3-6
 ICAO PHONETICS, 2-3-1
 NUMBER USAGE, 2-3-2
 WORDS AND PHRASES, 2-3-1

Weather, 2-4-1
 ANNOUNCING MISSING ITEMS, 2-4-6
 RADAR, 2-4-9
 SURFACE OBSERVATIONS, 2-4-1
 WEATHER ADVISORIES, 2-4-9
 WEATHER REMARKS, 2-4-7
 WINDS AND TEMPERATURES ALOFT
 FORECAST, 2-4-10

Pilot Briefing, 5-2-1
 DELIVERY OF ABBREVIATED BRIEFINGS,
 5-2-6
 DELIVERY OF OUTLOOK BRIEFINGS,
 5-2-6
 DELIVERY OF STANDARD BRIEFINGS,
 5-2-2

[References are to page numbers]

Density Altitude, 5-2-4
 DESCRIPTION, 5-2-1
 International Cautionary Advisory, 5-2-2
 LOGGING BRIEFINGS, 5-2-1
 PILOT WEATHER BRIEFER CERTIFICATION, 5-2-1
 Solicitation of PIREPs, 5-2-5
 TYPE OF BRIEFING TO BE DELIVERED, 5-2-1
 PILOT WEATHER BRIEFER CERTIFICATION, 5-2-1
 Pilot Weather Reports, 8-1-1
 DATA TO BE INCLUDED IN PIREPs, 8-1-3
 GENERAL, 8-1-1
 HANDLING, 8-1-10
 PIREP CLASSIFICATION, 8-1-2
 PIREP FORMAT, 8-1-3
 REPORTING AIRFRAME ICING IN PIREPs, 8-1-9
 REPORTING TURBULENCE IN PIREPs, 8-1-8
 REPORTING WIND SHEAR IN PIREPs, 8-1-10
 RESPONSIBILITY, 8-1-1
 PIREPs. *See* Pilot Weather Reports
 Pre-Flight Services, 5-1-1
 Briefing Display, 5-3-1
 DESCRIPTION, 5-1-1
 Pilot Briefing, 5-2-1
 PRE-DUTY REQUIREMENTS, 5-1-1
 UNAVAILABILITY OF INFORMATION, 5-1-1
 PRE-DUTY REQUIREMENTS, 4-1-1, 5-1-1
 PRIORITY MESSAGES, 6-1-3
 PROCEDURAL APPLICATIONS, 2-1-2

Q

QALQ, 3-4-2
 ACTION BY DEPARTURE STATION, 3-4-3
 CANCELLATION OF, 3-4-3

R

RAA. *See* Remote Airport Advisory (RAA)
 RADAR, 2-4-9

Radio Communications, 4-2-1
 ABBREVIATED TRANSMISSION, 4-2-2
 ARRIVAL/MISSED APPROACH REPORTS, 4-2-6
 ATC CLEARANCES, ADVISORIES, OR REQUESTS, 4-2-5
 AUTHORIZED TRANSMISSIONS, 4-2-1
 BROADCAST (BLIND TRANSMISSION) OF MESSAGES, 4-2-7
 DEPARTURE REPORTS, 4-2-6
 FREQUENCY USE, 4-2-1
 IFR FLIGHT PROGRESS REPORTS, 4-2-6
 NON-DELIVERY OF MESSAGES, 4-2-6
 NON-EMERGENCY PARACHUTE JUMPING, 4-2-7
 RADIO COMMUNICATIONS TRANSFER, 4-2-5
 RADIO MESSAGE FORMAT, 4-2-1
 ROUTINE RADIO CONTACTS, 4-2-2
 UNAUTHORIZED ENTRY INTO CLASS A AIRSPACE OR PROHIBITED/RESTRICTED AREA, 4-2-7
 RADIO COMMUNICATIONS TRANSFER, 4-2-5
 RADIO MESSAGE FORMAT, 4-2-1
 RAIS. *See* Remote Airport Information Service (RAIS)
 RECORDING FLIGHT DATA INFORMATION, 6-1-1
 RECORDING IN-FLIGHT INFORMATION, 4-1-3
 REFERENCES, 1-2-2
 RELAY OF ATC COMMUNICATION, 2-5-1
 Remark Codes, Appendix B-5
 Remote Airport Advisory (RAA), 4-3-1
 Remote Airport Information Service (RAIS), 4-3-1
 Remote Weather Advisory Service (RWAS), 4-3-1
 RNAV ROUTE, COORDINATION, 6-2-13
 ROUTINE RADIO CONTACTS, 4-2-2
 RUNWAY CONDITIONS, 2-5-8
 RVR, 4-5-1
 RWAS. *See* Remote Weather Advisory Service (RWAS)

[References are to page numbers]**S**

Search and Rescue (SAR), 3-4-1

Service B Message Formats, Appendix D-1

- Active ICAO Modification (MOD) Message, Appendix D-4
- ICAO Acknowledgement (ACK) Message, Appendix D-10
- ICAO Arrival (ARR) Message, Appendix D-4
- ICAO Cancellation (CNL) Message, Appendix D-5
- ICAO Departure (DEP) Message, Appendix D-6
- ICAO FPL Message (Proposed-Inbound), Appendix D-8
- ICAO Logical Acknowledgement (LAM) Message, Appendix D-11
- ICAO Logical Rejection Message (LRM), Appendix D-11
- ICAO Reject (REJ) Message, Appendix D-10
- ICAO Search and Rescue (SAR) Messages, Appendix D-12
- ICAO Supplementary Flight Plan (SPL) Message, Appendix D-1
- Proposed ICAO FPL Message, Appendix D-7
- Proposed ICAO Modification (CHG) Message, Appendix D-3

SERVICE MESSAGES, 6-4-2

SPECIAL MILITARY FLIGHTS, 6-3-1

Special VFR Operations, 4-6-3

- AUTHORIZATION, 4-6-3
- PREDESIGNED SPECIAL VFR CLEARANCES, 4-6-5
- REQUESTS FOR SPECIAL VFR CLEARANCE, 4-6-3
- VISIBILITY BELOW ONE MILE, 4-6-4

STOPOVER DVFR FLIGHT PLANS, 6-3-3

SURFACE OBSERVATIONS, 2-4-1

Surface Weather Observations, 8-2-1

- GENERAL, 8-2-1
- NONAVIATION WEATHER SERVICES, 8-2-1
- RESPONSIBILITY, 8-2-1
- WEATHER OBSERVATION CERTIFICATE, 8-2-1

SUSPICIOUS UNMANNED AIRCRAFT ACTIVITY, 3-2-5

T

TELEPHONE REQUESTS FOR ATC CLEARANCES, 6-1-2

Terms of Reference, 1-2-1

- ABBREVIATIONS, 1-2-2
- ANNOTATIONS, 1-2-2
- NOTES, 1-2-2
- REFERENCES, 1-2-2
- WORD MEANINGS, 1-2-1

TRAFFIC CONTROL, 4-3-6

TRANSFER OF POSITION RESPONSIBILITY, 2-1-1

U

U.S. AIR FORCE/U.S. NAVY UNDERGRADUATE PILOTS, 6-3-1

UNAUTHORIZED ENTRY, 4-2-7

UNAVAILABILITY OF INFORMATION, 5-1-1

UNMANNED AIRCRAFT, SUSPICIOUS ACTIVITY, 3-2-5

V

VFR AIRCRAFT IN WEATHER DIFFICULTY, 3-2-1

VFR Flight Not Recommended (VNR), 5-2-3

VISIBILITY AIDS, 4-5-1

VNR. *See* VFR Flight Not Recommended (VNR)

VOR CROSS-FIX, 3-3-3

W

WEATHER ADVISORIES, 2-4-9

WEATHER INFORMATION ESSENTIALS, 5-3-2

WEATHER OBSERVATION CERTIFICATE, 8-2-1

WEATHER REMARKS, 2-4-7

[References are to page numbers]

Weather Service, FAA, 8-1-1
Aviation Weather Cameras, 8-3-1
Future FAA Weather Services, 8-4-1
Pilot Weather Reports, 8-1-1
Surface Weather Observations, 8-2-1

WINDS AND TEMPERATURES ALOFT
FORECAST, 2-4-10

WORD MEANINGS, 1-2-1