CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

JO 7110.10EE
CHG 2

Effective Date:
January 22, 2026

SUBJ: Flight Services

1. Purpose of This Change. This change transmits revised pages to Federal Aviation Administration Order JO 7110.10EE, Flight Services, and the Briefing Guide.

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. The Briefing Guide lists only new or modified material, along with background.

5. Distribution. This change is distributed electronically to all who subscribe to receive email notification/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 Retain this transmittal until superseded by a new basic order.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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Flight Services
Explanation of Changes
Change 2

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

a. 4–6–2. REQUESTS FOR SPECIAL VFR CLEARANCE

This change corrects the second instance of the word “AIRPORT” to “SURFACE AREA” in the Phraseology under subparagraph d.

b. Editorial Changes

Editorial changes include editing language to ensure FAA Order JO 7340.2 references are accurate.

c. Entire Publication

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

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Section 2. Terms of Reference

1–2–1. WORD MEANINGS

As used in this order:

a. "**Aircraft**" means the airframe, crewmembers, or both.

b. "**Altitude**" means indicated altitude mean sea level (MSL), flight level (FL), or both.

c. "**Automated services**" means those services delivered via an automated system (that is, without human interaction) (for example, flight plans, Notices to Airmen [NOTAM], interactive maps, computer-generated text-to-speech messages, short message service, or email).

d. "**Feet**" means MSL unless otherwise stated.

e. "**Flight plan area (FPA)**" is the geographical area assigned to a flight service station (FSS) to establish primary responsibility for services that may include search and rescue (SAR) for visual flight rules (VFR) aircraft, issuance of NOTAMs, pilot briefings, in–flight services, broadcast services, emergency services, flight data processing, international operations, and aviation weather services. Consolidated FSS facilities may combine FPAs into larger areas of responsibility (AOR).

f. "**Form**" means a paper record or an electronic equivalent that must be retained in accordance with FAA directives.

g. "**History files**" means one or more digital or paper data repositories that must be retained in accordance with FAA directives.

h. "**May**" or "**need not**" means a procedure is optional.

i. "**Miles**" means nautical miles (NM) unless otherwise specified and means statute miles in conjunction with visibility.

j. "**Must**" means a procedure is mandatory.

k. "**Must not**" means a procedure is prohibited.

l. "**Pertinent**" means relating directly and significantly to the matter at hand.

1. The horizontal limit of pertinent meteorological and aeronautical information is considered to be 25 miles on either side of the proposed route. However, when determining the pertinence of information, specialists and automated systems should take into account the dynamic aspect of weather, aircraft performance, and type of flight. Conditions occurring or expected to occur more than 25 miles from the route must be provided if there is a potential for the safety of the flight to be compromised.

2. The vertical limits of pertinent meteorological and aeronautical information are considered to be:

(a) The climb out and approach paths.

(b) For flights below FL 180: from the surface to 5,000 feet above the proposed en route altitude.

(c) For flights at or above FL 180: from 5,000 feet above and below the proposed en route altitude.

m. "**Sector**," when used in conjunction with FSS functions, means a specifically described geographic area assigned a National Airspace Data Interchange Network (NADIN) address.

n. "**Shared database**" is a database within an FSS operational system that is accessible by specialists in other geographical locations.

o. "**Should**" means a procedure is recommended.

p. "**Specialist-provided services**" means those 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).

q. "**Tie-in facility**," for the purposes of this order, designates the responsible facility/sector for sending/receiving flight plans, flight notification messages, and performing SAR duties for the listed location.

r. "**Time**," when used for air traffic control operational activities, is the hour and the minute(s) in Coordinated Universal Time (UTC). Change to the next minute is made at the minute plus 30 seconds, except time checks are given to the nearest quarter minute. Specialists must state the word "local" or the time zone equivalent when local time is given during radio and telephone communications; the term "Zulu" may be used to denote UTC.

s. "**Transmit**" means to send data via NADIN or Weather Message Switching Center Replacement (WMSCR) to an outside recipient or to process data internally within an operational system that shares a global database.

t. "**Will**" means futurity, not a requirement for application of a procedure.

u. Plural words include the singular.

v. Singular words include the plural.

1–2–2. NOTES

Statements of fact or of an explanatory nature and relating to the use of directive material are identified as ***NOTE***.

1–2–3. REFERENCES

As used in this order, references direct attention to an additional or supporting source of information such as FAA, National Weather Service (NWS), and other agencies' orders, directives, notices, Title 14, Aeronautics and Space, of the Code of Federal Regulations (14 CFR), and advisory circulars (AC).

1–2–4. ANNOTATIONS

a. The annotation ***PHRASEOLOGY*** denotes the prescribed words or phrases to be used in communications. Phraseology, as depicted in this order, is mandatory unless an exception is explicitly identified.

NOTE–
1. *Specialists may rephrase the message, after first using the prescribed phraseology for a specific procedure, to ensure the content is understood. Specialists must exercise good judgment when using nonstandard phraseology to aid in comprehension.*

2. *Phraseology applies to the identified service (for example, in-flight or broadcast). The use of phraseology in other services is encouraged for consistency and may be required by locally approved procedures.*

b. The annotation ***EXAMPLE*** provides a sample of the way the prescribed phraseology associated with the preceding paragraph(s) will be used. If the preceding paragraph(s) does (do) not include specifically prescribed phraseology, the example merely denotes suggested words and/or phrases that may be used in communications.

NOTE–
Using the exact text in an example not preceded by specifically prescribed phraseology is not mandatory. However, to the extent possible, the words and/or phrases are expected to approximate those used in the examples.

1–2–5. ABBREVIATIONS

As used in this order, the following abbreviations have the meanings indicated in TBL 1–2–1.

NOTE–
Additional abbreviations and their meanings are included in other tables or paragraphs within the order.

TBL 4–1–2
Miscellaneous Abbreviation

Abbreviation	Meaning
BC	Back course approach
CT	Contact approach
FA	Final approach
GPS	GPS approach
I	Initial approach
ILS	ILS approach
MA	Missed approach
NDB	Non–directional radio beacon approach
OTP	VFR conditions–on–top
PA	Precision approach
PT	Procedure turn
RH	Runway heading
RP	Report immediately upon passing (fix/altitude)
RX	Report crossing
SA	Surveillance approach
SI	Straight-in approach
TA	TACAN approach
TL	Turn left
TR	Turn right
VA	Visual approach
VR	VOR approach

2. Flight plans and related messages (for example, modifications, cancellations, activations, and closures). When closing an active VFR flight plan, obtain departure point and destination, if not already known.

NOTE–
1. *A closed VFR flight plan is one that has been activated and is then removed from an inbound list.*

2. *A canceled VFR flight plan is one that is removed from a proposed list and has not been activated.*

3. *FSS operational systems contain an electronic equivalent of authorized FAA flight plan forms.*

3. ATC clearances.

4. Pilot briefings.

5. Weather and flight data messages.

6. Other operationally significant actions.

b. In-flight contacts may be logged in the operational system, the multi-touch electronic flight strip (EFS) system, or other facility approved alternate forms.

c. Locally approved procedures may be used to manually record data during heavy traffic periods or system outages and should be logged in the operational system as soon as practicable.

d. Use control/clearance symbols, abbreviations, location identifiers, and contractions for recording position reports, traffic clearances, and other data.

e. When recording data, you may use:

1. Plain language to supplement data when it will aid in understanding the recorded information.

2. Locally approved contractions and identifiers for frequently used terms and local fixes not listed in FAA Order JO 7340.2, Contractions, or accessible through FAA Order JO 7350.9, Location Identifiers. Use only within your facility, not on data or interphone circuits. All locally approved contractions and identifiers must be available in facility files for record and reference purposes.

f. When recording data manually, use the standard hand−printed characters shown in TBL 4−1−3 to prevent misinterpretation.

1. To correct or update data, draw a horizontal line through it and write the correct information adjacent to it.

2. Do not erase any item.

TBL 4−1−3
Hand-Printed Character Chart

Typed	Hand-Printed	Typed	Hand-Printed
A	A	S	S
B	B	T	T
C	C	U	U
D	D	V	V
E	E	W	W
F	F	X	X
G	G	Y	Y
H	H	Z	Z
I	I	1	1
J	J	2	2
K	K	3	3
L	L	4	4
M	M	5	5
N	N	6	6
O	O	7	7
P	P	8	8
Q	Q	9	9
R	R	0	Ø

NOTE−
A slant line crossing through the numeral zero and an underline of the letter "S" on handwritten portions of flight progress strips are required only when there is reason to believe the lack of these markings could lead to a misunderstanding. A slant line through the numeral zero is required on all weather data.

4−1−7. FLIGHT PROGRESS STRIPS AND ENTRY DATA

a. When officially used to record in−flight data, use the multi-touch EFS to record:

1. Aircraft contacts.

2. ATC clearances.

3. Pilot briefings on airborne aircraft.

4. Other operationally significant items.

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) SURFACE AREA (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.

Chapter 6. Flight Data Services

Section 1. General

6–1–1. DESCRIPTION

The primary task of the flight data position is information management. Flight data services include the development, translation, processing, and coordination of aeronautical, meteorological, and aviation information. Flight service specialists performing flight data duties are responsible for:

a. The initiation and completion of SAR for aircraft on overdue VFR flights (see Chapter 3, Section 4) and assisting other ATC facilities as needed for SAR involving overdue IFR flights.

b. Conducting intra-facility and inter-facility coordination.

c. Forwarding departures, progress reports, and arrival reports to ATC upon request.

d. Compilation, evaluation, recording, and dissemination of data.

e. Managing outbound traffic as required.

f. Revising flight data as necessary.

g. Correctly formatting and editing flight data messages.

6–1–2. RECORDING FLIGHT DATA INFORMATION

a. Record all actions taken in the provision of flight data services in the operational system.

1. Flight plans and related messages.

NOTE–
FSS operational systems contain an electronic equivalent of authorized FAA flight plan forms.

2. Service A/B messages.

3. ATC clearances.

4. Weather and flight data messages.

5. NOTAMs.

6. Other operationally significant actions.

b. Locally approved procedures may be used to manually record data during heavy traffic periods or system outages and should be logged in the operational system as soon as practicable.

c. Use control/clearance symbols, abbreviations, location identifiers, and contractions for recording position reports, traffic clearances, and other data.

d. When recording data you may use:

1. Plain language to supplement data when it will aid in understanding the recorded information.

2. Locally approved contractions and identifiers for frequently used terms and local fixes not listed in FAA Order JO 7340.2, Contractions, or accessible through FAA Order JO 7350.9, Location Identifiers. Use only within your facility, not on data or interphone circuits. All locally approved contractions and identifiers must be placed in facility files for record and reference purposes.

e. When recording data manually, use the standard hand–printed characters shown in TBL 4–1–3 to prevent misinterpretation.

1. To correct or update data, draw a horizontal line through it and write the correct information adjacent to it.

2. Do not erase any item.

6–1–3. PART-TIME FSS CLOSURE ACTION

Part-time facilities must forward the following information to the designated guard FSS.

a. Inbound flights – all information.

b. Outbound flights – VFR and IFR flight plan data when proposed departure time and/or ETA is within the period from one hour prior to closing until one hour after opening.

c. All other pertinent information (for example, NOTAMs and pending outages).

6–1–4. TELEPHONE REQUESTS FOR ATC CLEARANCES

a. When a telephone request for an ATC clearance is received, positively verify the departure location by airport name or location identifier, and the city name and state.

NOTE–
1. *Verification of the departure location may prevent a critical safety situation involving similar or identical airport or city names possibly located in different states.*

2. *City refers to a city, town, village, or publicly recognized place.*

b. Pilots departing from a non–towered airport on an IFR flight plan in the CONUS should be directed to consult the Chart Supplement U.S. to determine the frequency or telephone number to use to contact clearance delivery.

NOTE–
Air traffic facilities providing clearance delivery services via telephone will have their telephone number published in the Chart Supplement U.S. of that airport's entry. This same section may also contain a telephone number to use for cancellation of an IFR flight plan after landing.

c. Pilots of MEDEVAC flights in the CONUS may obtain a clearance by calling (877) 543–4733.

d. In Alaska, pilots may obtain a clearance via telephone.

e. Refer to FAA Order JO 7110.10, paragraph 4–2–7, ATC Clearances, Advisories, or Requests, for guidance on relaying ATC clearances.

6–1–5. COMMUNICATIONS SERVICES

Most flight movement data exchanged outside of the facility is processed by automated systems such as NADIN. It is important to adhere to strict format and procedures during normal operations as well as system interruption periods.

a. Circuit interruption notifications should be as follows:

1. Consult your operational system handbook and standard operating procedures for detailed instructions regarding circuit interruption notification procedures.

2. Notify any guarding facility/sector, the AISR customer service center, and NADIN.

b. All outage reports should refer to the correct circuit and/or equipment identification numbers. Facilities should obtain and record ticket numbers provided by AISR or the TELCO authority.

c. WMSCR and NADIN: contact the FAA NEMC at (855) 322–6362 (FAA–NEMC).

1. For ATLANTA (KATLYTYX), press 1;

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, accessible through 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 information accessible through 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.

6–2–5. COORDINATE RNAV ROUTES

a. When accepting flight plans containing coordinate RNAV routes, ensure that the route of flight after the departure fix is defined by latitude/longitude coordinates and a fix identifier.

b. The arrival fix must be identified by both the latitude/longitude coordinates and the fix identifier.

EXAMPLE–

(1)	*(2)*	*(3)*	*(4)*	*(4)*	*(5)*
MIA	SRQ	3407/10615	3407/11546	TNP	LAX

1. Departure airport.

2. Departure fix.

3. Intermediate fixes defined by latitude/longitude coordinates.

4. Arrival fix for the destination airport in terms of both the latitude/longitude coordinates and the fix identifier.

5. Destination airport.

6–2–6. FLIGHT PLAN ACTIVATION

a. If a departure report has not been received within a predetermined time, but not less than one hour after the proposed departure time, and specific arrangements have not been made to activate the flight plan, cancel and store in the history file.

b. The FSS history file is used for statistical and historical purposes. Movement messages, pilot briefings, and aircraft contacts are stored in the history files automatically and retained for 45 days.

c. When a pilot reports an actual departure time of more than two hours prior to the current clock time, request an updated ETE based on the aircraft's present position. Amend the ETE in the existing flight plan and activate the flight plan using the current time as the time of departure and inform the pilot of the new ETA.

6–2–7. DEPARTURE MESSAGES

a. When a pilot activates a flight plan or requests an assumed departure, transmit a departure message to the destination tie-in facility accessible through FAA Order JO 7350.9, Location Identifiers.

b. When a pilot activates a flight plan with other than the facility holding the flight plan, transmit a departure message to the departure tie-in facility.

c. When the proposed flight plan is received from another FSS or BASOPS, the departure facility will have only partial flight plan data. Add a remark indicating the Service B address of the facility holding the complete flight plan. Operational systems will automatically add this to the "Remarks" section of the flight plan.

EXAMPLE–
FF KBOIYFYX
DTG KCDCYFYX
VFR N12345 C182/U PVU BOI 1958
$FPKIADXCLX

d. If the pilot elects to close the flight plan with a facility other than the designated tie–in facility, send the departure message with remarks to both tie-in facilities (for example, FIRIV PAEN [file arrival Kenai]). The designated tie–in facility must assume both destination and SAR responsibility.

EXAMPLE–
FF PAENYFYX PAFAYFYX
DTG PAJNYFYX
(DEP (MN) (RD)–N12345–PANC1500–PAFA–FIRIV PAEN)

e. On civilian flight plans, if the pilot advises of stopover points, show these in Item 18.

EXAMPLE–
FF KBOIYFYX
DTG KCDCYFYX
(FPL (MN)(RD)–N12345–VG
–P28–S
–KPVU1755
–N0115A030 DCT
–KBOI0123
–RMK/LNDG TWF

f. When using the format of FAA Form 7233–4 or DD Form 1801, in remarks use coded data pertinent to services, passengers, or cargo. In the absence of Item 18 entries, enter the number "0" (meaning none) in the remarks field.

EXAMPLE–
–RMK/0

REFERENCE–
DoD Flight Information Publication, General Planning Document.

1. Flight notification messages with remarks generate an alert at designated workstations.

2. When landing at a civilian airport, if there are no remarks with the flight notification message, it is placed on the Inbound List with no alerts for notification purposes.

3. When landing at a military airport, all flight notification messages generate an alert.

EXAMPLE–
FF KRCAYXYX
DTG KRIUYFYX
IFR DECAL01 T18/R SMF RCA 0135
$AP3NP3S
FF KBOIYFYX
DTG KCDCYFYX
VFR R54321 2/UH1/U SLC BOI 1943 $N

g. Address military stopover flight notification messages to and obtain acknowledgements from the destination tie-in facility serving all destinations.

1. For the first leg, transmit the items in subparagraphs 6–2–7a and 6–2–7f.

2. For each subsequent leg, transmit the destination, ETE, and remarks applicable to that leg only, prior to (/). Remarks pertaining to the entire flight are entered in the "Remarks" section of the original flight plan and are transmitted to all addressees.

3. Separate stopover legs by inserting a slant (/) at the end of each leg except the last. Begin each leg on a new line.

EXAMPLE–
FF KANDYFYX KGNVYFYX KMIAYFYX
DTG KDCAYFYX
IFR VV12345 P3 ADW CHS 1300/
NIP 01+30 A5 BALL DP10 AP5 S/
MIA 02+30 NO DE-ICING EQUIPMENT

4. For composite flights, specify type flight plan as the first item of each leg.

5. When en route delays are involved, include delay time in ETE.

h. Apply military flight plan procedures to all civilian aircraft landing at military bases.

NOTE–
It is the civilian pilot's responsibility to obtain permission (from military authorities) to land at a military base.

FF KZKCZQZX
031840 KSLCYTYX
SVC. ZKC122 QTA MSR

b. Assign the appropriate priority indicator to international service messages. When service messages refer to messages previously transmitted, assign the same priority prefix. Identify a service message by inserting "SVC" as the first item of the text.

EXAMPLE–
FF TJSJYFYX
DTG KSEAYFYX
SVC. RUMES 231015
(Text)

6–4–5. TRANSMISSION VIA NADIN

International messages are generally introduced on NADIN for relay to AFTN circuits.

a. Operational systems use the ICAO flight plan or SVC–B message formats as described in the operational system operating procedures.

b. Handle international messages on NADIN for relay to AFTN as follows:

1. Start of message. New line key.

2. Preamble (priority, space, addressee(s)).

(a) Priority. Two-character precedence field.

(b) Addressee(s). Not to exceed 69 characters or 7 addressees, each addressee separated by a space.

(c) End of line (EOL). New line key.

(d) End of text (EOT). Enter function.

6–4–6. TRANSMISSION OF ATS MESSAGES

a. Air traffic service messages are interchanged in the international air traffic control system in the following modes:

1. The preferred step-by-step mode wherein each ACC/ARTCC sends forward the full current (updated) flight plan information as the flight progresses.

2. The simultaneous mode wherein information extracted from the filed FPL is sent simultaneously to all ATS units along the route of flight. In this mode, only amendments to the FPL, plus necessary control information, are forwarded from ARTCC to ARTCC as the flight progresses.

b. Prepare and transmit ATS messages as described below. Address these messages as follows:

1. Include an eight-character addressee indicator for each addressee. When the number of addressees required is more than the operational system parameters allow, two or more transmissions of the message must be made. The eight-letter combination addressee indicators are composed as follows:

(a) The four-letter ICAO location indicator (for example, MPTO). Use only those listed in ICAO DOC 7910 (Location Indicators).

(b) A four-letter designator for the facility type/office, or if no designator has been assigned, affix YXYX for military, ZZZX for aircraft in-flight, or YYYX for all other cases (for example, MTPPYYYX) (see note).

REFERENCE–
ICAO DOC 8585, Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.

NOTE–
The most frequently used and authorized designators are:
YAYX Government Civil Aviation Authority (FAA Regional Office or Headquarters).
YCYX Rescue Coordination Center (RCC).
YDYX Authority Supervising the Aerodrome.
YFYX Aeronautical Fixed Station (FSS/IATSC).
YMYX Meteorological Office (NWS).
YNYX International NOTAM Office (NOF).
YTYX Telecommunications Authority.
YWYX Military Flight Operational Control Center.
YXYX Military Organization (BASOPS).
YYYX Organization not allocated a two–letter designator.
ZOZX Oceanic Air Traffic Control Center.
ZPZX Air Traffic Service Reporting Office.
ZQZX Computer Facility at ACC/ARTCC.
ZRZX ACC/ARTCC. (Center in charge of a FIR/UIR when the message is relevant to a VFR flight (AMIS)).
ZTZX Aerodrome Control Tower.
ZZZX Aircraft in–flight.

(c) A one-letter designator will appear following an air carrier designator to indicate the department or division of the organization addressed.

2. Filing time. A six-digit date/time group indicating the time the message is filed with the FSS for transmission.

c. Originator indicator. Consists of an eight-letter sequence similar to an address indicator, identifying the place of origin and the organization originating the message.

d. Supplementary address and origin information. When the four–letter designators YXYX, ZZZX, or YYYX are used, identify the aircraft operator or organization at the beginning of the text preceding the start–of–ATS data symbol (– –), in the same order as in the addressee(s) and/or originator indicator(s). Where there is more than one such insertion, the last should be followed by the word “stop.” Where there are one or more insertions in respect to addressee indicators plus an insertion in respect to the originator indicator, the word “from” is to appear before that relating to the originator.

e. When addressing flight plan messages or related amendments and flight plan cancellation messages to ARTCCs, use one of the four-letter designators as follows:

1. If message is relevant to IFR and:

(a) The ARTCC is computer-equipped (U.S. ARTCCs), use ZQZX.

(b) The ARTCC is not computer-equipped, use ZRZX.

(c) Relevant to oceanic operations, use ZOZX.

NOTE–
Some ARTCCs may request specific addressing different from above. ZTZX and ZPZX are used internationally but are not used in internal U.S. application.

2. If message is VFR (AMIS), use ZRZX.

3. If SVC or administrative, use ZRZX.

6–4–7. ORIGINATING MESSAGES

a. Messages for ATS purposes may be originated with ATS units by aircraft in-flight, or, through local arrangements, a pilot, the operator, or their designated representative.

b. Accept air-filed flight plans or changes in destination information from aircraft inbound from foreign locations and, if requested by the pilot, enter customs notification service.

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

6–6–1. GENERAL

Except as indicated in this section, handle Transborder Canadian movement and control messages as described in Chapter 6, Section 1, Section 2, and Section 3. Do not include ADCUS in flight plan remarks for flight plans to Canada because NAV CANADA no longer alerts Canadian Customs. Canada's Private Aircraft Program for Customs (CANPASS) authorizations are the obligation of the pilot, at the number in subparagraph 6–6–3a. Do not include ADCUS in flight plan remarks for flights plans from Canada to the U.S. because U.S. FSSs no longer alert U.S. CBP. U.S. APIS authorizations are the obligation of the pilot for flights departing and entering the U.S., as stated in 19 CFR 122. APIS resources for pilots are available at http://www.cbp.gov.

6–6–2. INBOUNDS FROM CANADA

a. Do not accept VFR flight plans, other than air filed flight plans, for aircraft departing from Canada. Refer individuals to the appropriate NAVCANADA facility to file flight plans out of Canada.

b. The operational system should automatically format the required items of the flight notification message when activated. U.S. CBP authorizations for flights inbound to the U.S. from Canada are the obligation of the pilot and must be obtained via the APIS process. APIS resources for pilots are available at http://www.cbp.gov.

c. Facilities must acknowledge receipt of inbound flight plan and flight data messages as soon as practicable by transmitting a Logical Acknowledgement Message (LAM), suspense VFR flight plans until arrival or closure information is received, and remove IFR messages from the inbound list after delivery.

NOTE–
ATS messages used by FSS are explained in Appendix D.

6–6–3. OUTBOUNDS TO CANADA

a. When Customs notification service is requested, advise the pilot to contact CANPASS at (888) 226–7277 and include CANPASS in the remarks section of the flight plan. If the pilot informs that he/she has contacted CANPASS, place CANPASS in the remarks section of the flight plan.

NOTE–
U.S. CBP authorizations for flights outbound from the U.S. to Canada are the obligation of the pilot and must be obtained via the APIS process. APIS resources for pilots are available at http://www.cbp.gov.

b. Accept customs notification requests from in-flight aircraft for relay via telephone notification to CANPASS at (888) 226–7277 for airports of entry when proposed ETA is during customs service hours.

c. Upon notification of the departure of VFR flights, transmit a departure message (DEP) directly to the destination Canadian relay facility.

d. Suspense ATS flight data message until acknowledgment is received.

REFERENCE–
FAA Order JO 7110.10, Para 3–5–4, Canadian Transborder Flights.

1. If an acknowledgment is not received within 30 minutes after departure, retransmit the message. AISR facilities transmit the contraction "REQ ACP" (request acceptance) and the complete aircraft identification.

EXAMPLE–
FF CZYZZFZX
DTG KBUFYFYX
REQ ACP N711VR

2. If acknowledgment is not received within one hour after departure, use interphone or telephone to deliver. In any event, assure delivery prior to ETA.

3. Refer to Section B of the Canada and North Atlantic IFR Supplements for Canadian FSS and ACC telephone numbers.

e. Do not accept round-robin flight plans to Canada.

6–6–4. OUTBOUNDS TO CANADA DEPARTING FROM OUTSIDE FLIGHT PLAN AREA

a. Accept flight plans regardless of departure point within the NAS.

b. Upon receipt of the departure report, the tie-in SECTOR/FSS is responsible for delivery of the departure message to Canada.

6–6–5. IFR FLIGHT PLANS DEPARTING CANADIAN AIRPORTS

a. Accept IFR flight plans departing from Canadian airports and destined to the U.S. Address messages to the ACC accessible through FAA Order JO 7350.9, Location Identifiers.

NOTE–
FSSs in Alaska will still accept Canada to Canada IFR flight plans.

b. Accept IFR flight plans regardless of destination when the departure airport is a Canadian airport where air traffic control services are provided by the FAA.

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

6–7–1. GENERAL

a. Except as outlined in this section, handle transborder Mexican movement and control messages as described in Chapter 6, Section 1, Section 2, and Section 3. IFR flight plans to Mexico require the ICAO flight plan form.

b. Do not include ADCUS in flight plan remarks for flight plans to Mexico; Mexican Customs authorizations are the obligation of the pilot. Do not include ADCUS in flight plan remarks for flights plans from Mexico to the U.S. because U.S. FSSs no longer alert U.S CBP. U.S. APIS authorizations are the obligation of the pilot for flights departing and entering the U.S., as stated in 19 CFR 122. APIS resources for pilots are available at http://www.cbp.gov.

6–7–2. INBOUNDS FROM MEXICO

a. When received in the proper format, VFR flight notification messages are automatically acknowledged and suspended by the operational system.

b. Acknowledge receipt of a flight notification message as soon as practicable by transmitting the letter R followed by the full aircraft identification.

EXAMPLE–
R N7llVR

c. Suspense VFR flight notification messages until arrival or closure information is received. File IFR messages.

6–7–3. OUTBOUNDS TO MEXICO

a. Mexican customs notification is the obligation of the pilot. U.S. CBP authorizations for flights outbound from the U.S. to Mexico are also the obligation of the pilot and must be obtained via the APIS process. APIS resources for pilots are available at http://www.cbp.gov.

NOTE–
Mexican customs regulations require that only international airports-of-entry may be used for first landing.

1. If the pilot still intends to land at a destination other than an airport-of-entry, advise the pilot that the flight plan will not be used for customs or SAR service in Mexico.

2. Transmit the flight notification message to the regional flight dispatch office, not the destination tie-in station.

NOTE–
If the correct addressee cannot be determined, transmit to the nearest border regional flight dispatch office.

b. VFR flight plans.

1. Upon notification of departure of VFR flights, transmit a flight notification message. Address messages to the ICAO addressee for the appropriate destination location.

2. If a VFR flight plan is filed with a destination other than an airport-of-entry, transmit the flight notification message to the regional flight dispatch office, not the destination tie-in station. If the correct addressee cannot be determined, transmit to the nearest border regional flight dispatch office.

NOTE–
Facilities with interphone/telephone capability may relay flight notification messages by this method.

3. Address messages to the ICAO addressee for the appropriate destination location. Transmit the following information:

(a) Type of flight.

(b) Aircraft identification.

(c) Aircraft type.

(d) Departure point.

(e) Destination.

(f) ETA.

(g) Remarks.

EXAMPLE–
FF MMCUXMXO
DTG KSJTYFYX
VFR N1234S C182 SJT MMCU 1400 4ZUCHERMANN

c. If acknowledgment is not received within 30 minutes after departure, transmit a "request acceptance" message to the destination station tie-in addressee and to the regional flight dispatch office. Manually address the message to the designated regional flight dispatch office.

EXAMPLE–
FF MMCUXMXO MMMYXMXO
REQ ACP N1234S

d. The regional flight dispatch office involved will then normally send an acknowledgment to the departure station and assume responsibility for the flight notification message.

e. If acknowledgment/acceptance is not received within one hour of the departure, use interphone/telephone or other available means to deliver the message to the appropriate regional flight dispatch office. See TBL 6–7–1 for telephone numbers. For a complete address, add "XMXO" to the identifier.

TBL 6–7–1
Mexican Regional Flight Dispatch Office Phone Numbers

Region	Identifier	Telephone Number
CENTRO (Central)	MMMX	01152 5 762–7062 01152 5 784–40–99 ext. 153 01152 5 762–58–77 ext. 153
NORESTE (Northeast)	MMMY	01152 83 454–020 ext. 141
NOROESTE (Northwest)	MMMZ	01152 67 23–114 01152 67 22–075 ext. 140
OCCIDENTE (West)	MMGL	01152 36 890–121 ext. 32 and 167
SURESTE (Southeast)	MMMD	01152 99 231–186 ext. 149

f. Do not accept round-robin flight plans to Mexico.

6. Use only authorized aircraft designators and contractions.

7. In the location TEI, include any three character alphanumeric identifier to describe locations or routes. Use only authorized identifiers accessible through FAA Order JO 7350.9, Location Identifiers.

8. Omit entries of TEIs, except as listed in subparagraph 8–1–9c2, for which no data was reported.

d. PIREPs must be coded to ensure the PIREP is stored and subsequently distributed with the surface observation location nearest the condition being reported. If more than one METAR location is appropriate, select the location that provides the greatest distribution and/or prominence, such as a major hub airport.

TBL A–20

Flight Routing Information

Item	International Flight Plan (FAA Form 7233–4)	Domestic U.S. Requirements	Equivalent Item on Domestic Flight Plan (FAA Form 7233–1)
Departure Airport	Item 13	Required	Item 2
Departure Time	Item 13	Required	Item 1
Cruise Speed	Item 15	Required	N/A
Requested Altitude	Item 15	Required	Item 3
Route	Item 15	Required	N/A
Delay En Route	Item 15, Item 18 DLE/	Required	N/A
Destination Airport	Item 16	Required	Item 11
Total Estimated Elapsed Time	Item 16	Required	Item
Alternate Airport	Item 16 Item 18 ALTN/ (Destination Alternate)	If necessary	N/A
	RALT/ (En Route Alternate); TALT/ (Take-off Alternate)	No need to file for domestic U.S. flight	
Estimated Elapsed Times	Item 18 EET/	Include when filing flight plan with center other than departure center	N/A

f. Instructions for Flight Routing Items

1. Departure Airport (Item 13, Item 18 DEP/)

(a) Enter the departure airport. The airport should be identified using the four-letter location identifier accessible through FAA Order JO 7350.9, Location Identifiers, or from ICAO Document 7910. FSS and FAA contracted flight plan filing services will allow up to 11 characters in the departure field. This will permit entry of non-ICAO identifier airports, and other fixes such as an intersection, fix/radial/distance, and latitude/longitude coordinates. Other electronic filing services may require a different format.

NOTE–
While user interfaces for flight plan filing are not specified, all flight plan filing services must adhere to the appropriate Interface Control Document upon transmission of the flight plan to the control facility.

(b) When the intended departure airport (Item 13) is outside of domestic U.S. airspace, or if using the paper version of FAA Form 7233–4, or DoD equivalent, if the chosen flight plan filing service does not allow non-ICAO airport identifiers in Item 13 or Item 16, use the following ICAO procedure. Enter four Zs (ZZZZ) in Item 13 and include the non–ICAO airport location identifier, fix, or waypoint location in Item 18 DEP/. A text description following the location identifier is permissible in Item 18 DEP/.

NOTE–
Use of non-ICAO identifiers in Item 13 and Item 16 is only permissible when flight destination is within U.S. airspace. If the destination is outside of the U.S., then both Item 13 and Item 16 must contain either a valid ICAO airport identifier or ZZZZ. Use of non-ICAO departure point is not permitted in Item 13 if destination in Item 16 is outside of U.S.

EXAMPLE–
DEP/MD21
DEP/W29 BAY BRIDGE AIRPORT
DEP/EMI211017
DEP/3925N07722W

2. Departure Time (Item 13)

Indicate the expected departure time using 4 digits, 2 digits for hours and 2 digits for minutes. Time is to be entered as Coordinated Universal Time (UTC).

3. Requested Cruising Speed (Item 15)

(a) Include the requested cruising speed as True Airspeed in knots using an N followed by four digits.

EXAMPLE–
N0450

(b) Indicate the requested cruising speed in Mach using an M followed by three digits.

EXAMPLE–
M081

4. Requested Cruising Altitude or Flight Level (Item 15)

(a) Indicate a Requested Flight Level using the letter F followed by 3 digits.

EXAMPLE–
F350

(b) Indicate a Requested Altitude in hundreds of feet using the letter A followed by 3 digits.

EXAMPLE–
A080

5. Route (Item 15)

Provide the requested route of flight using a combination of published routes, latitude/longitude, and/or fixes in the following formats.

(a) Consecutive fixes, lat/long points, NAVAIDs, and waypoints should be separated by the characters "DCT", meaning direct.

EXAMPLE–
FLACK DCT IRW DCT IRW12503
4020N07205W DCT MONEY

(b) A published route should be preceded by a fix that is published on the route, indicating where the route will be joined. The published route should be followed by a fix that is published as part of the route, indicating where the route will be exited.

EXAMPLE–
DALL3 EIC V18 MEI LGC4

(c) It is acceptable to specify intended speed and altitude changes along the route by appending an oblique stroke followed by the next speed and altitude. However, note that FAA ATC systems will neither process this information nor display it to ATC personnel. Pilots are expected to maintain the last assigned altitude and request revised altitude clearances from ATC.

EXAMPLE–
DCT APN J177 LEXOR/N0467F380 J177 TAM/N0464F390 J177

6. Delay En Route (Item 15, Item 18 DLE/)

(a) ICAO defines Item 18 DLE/ to provide information about a delay en route. International flights with a delay outside U.S. domestic airspace should indicate the place and duration of the delay in Item 18 DLE/. The delay is expressed by a fix identifier followed by the duration in hours (H) and minutes (M), HHMM.

EXAMPLE–
DLE/EMI0140

(b) U.S. ATC systems will accept but not process information in DLE/. Therefore, for flights in the lower 48 states, it is preferable to include the delay as part of the route (Item 15). Delay in this format is specified by an oblique stroke (/) followed by the letter D, followed by 2 digits for hours (H) of delay, followed by a plus sign (+), followed by 2 digits for minutes (M) of delay: /DHH+MM.

EXAMPLE–
DCT EMI/D01+40 DCT MAPEL/D00+30 V143 DELRO DCT

7. Destination Airport (Item 16, Item 18 DEST/)

(a) Enter the destination airport. The airport should be identified using the four-letter location identifier accessible through FAA Order JO 7350.9, Location Identifiers, or from ICAO Document 7910. FSS and FAA contracted flight plan filing services will allow up to 11 characters in the destination field. This will permit entry of non-ICAO identifier airports, and other fixes such as an intersection, fix/radial/distance, and latitude/longitude coordinates. Other electronic filing services may require a different format.

NOTE–
While user interfaces for flight plan filing are not specified, all flight plan filing services must adhere to the appropriate Interface Control Document upon transmission of the flight plan to the control facility.

(b) When the intended destination (Item 16) is outside of domestic US airspace, or if using the paper version of FAA Form 7233–4, or if the chosen flight plan filing service does not allow non-ICAO airport identifiers in Item 13 or Item 16, use the following ICAO procedure. Enter four Zs (ZZZZ) in Item 13 and include the non-ICAO airport location identifier, fix, or waypoint location in Item 18 DEP/. A text description following the location identifier is permissible in Item 18 DEP/.

EXAMPLE–
DEST/06A MOTON FIELD
DEST/4AK6
DEST/MONTK
DEST /3925N07722W

8. Total Estimated Elapsed Time (Item 16)

All flight plans must include the total estimated elapsed time from departure to destination in hours (H) and minutes (M), format HHMM.

9. Alternate Airport (Item 16, Item 18 ALTN/)

(a) When necessary, specify an alternate airport in Item 16 using the four-letter location identifier accessible through FAA Order JO 7350.9 or ICAO Document 7910. When the airport does not have a four-letter location identifier, include ZZZZ in Item 16c and file the non-standard identifier in Item 18 ALTN/.

(b) While the FAA does not require filing of alternate airports in the flight plan provided to ATC, rules for establishing alternate airports must be followed.

(c) Adding an alternate may assist during Search and Rescue by identifying additional areas to search.

(d) Although alternate airport information filed in a flight plan will be accepted by air traffic computer systems, it will not be presented to controllers. If diversion to an alternate airport becomes necessary, pilots are expected to notify ATC and request an amended clearance.

EXAMPLE–
ALTN/W50 2W2

10. Estimated Elapsed Times (EET) at boundaries or reporting points (Item 18 EET/)

EETs are required for international or oceanic flights when crossing a Flight Information Region (FIR) boundary. The EET will include the ICAO four-letter location identifier for the FIR followed by the elapsed time to the FIR boundary (e.g., KZNY0245 indicates 2 hours, 45 minutes from departure until the New York FIR boundary).

EXAMPLE–
EET/MMFR0011 MMTY0039 KZAB0105

11. Remarks (Item 18 RMK/)

Enter only those remarks pertinent to ATC or to the clarification of other flight plan information. Items of a personal nature are not accepted.

NOTE–
1. *"DVRSN" should be placed in Item 11 only if the pilot/company is requesting priority handling to their original destination from ATC as a result of a diversion as defined in the Pilot/Controller Glossary.*

2. *Do not assume that remarks will be automatically transmitted to every controller. Specific ATC or en route requests should be made directly to the appropriate controller.*

g. Flight Specific Supplemental Information (Item 19)

1. Item 19 data must be included when completing FAA Form 7233−4. This information will be retained by the facility/organization that transmits the flight plan to Air Traffic Control (ATC), for Search and Rescue (SAR) purposes, but it will not be transmitted to ATC as part of the flight plan.

2. Do not include Supplemental Information as part of Item 18. The information in Item 19 is retained with the flight plan filing service for retrieval only if necessary.

NOTE−
Supplemental Information within Item 19 will be transmitted as a separate message to the destination FSS for VFR flight plans filed with a FSS or FAA contracted flight plan filing service. This will reduce the time necessary to conduct SAR actions should the flight become overdue, as this information will be readily available to the destination Flight Service Station.

3. Minimum required Item 19 entries for a domestic flight are Endurance, Persons on Board, Pilot Name and Contact Information, and Color of Aircraft. Additional entries may be required by foreign air traffic services, or at pilot discretion.

(a) After E/ Enter fuel endurance time in hours and minutes.

(b) After P/ Enter total number of persons on board using up to 30 alphanumeric characters. Enter TBN (to be notified) if the total number of persons is not known at the time of filing.

EXAMPLE−
P/005
P/TBN
P/ON FILE CAPEAIR OPERATIONS

(c) R/ (Radio) Cross out items not carried

(d) S/ (Survival Equipment). Cross out items not carried.

(e) J/ (Jackets) Cross out items not carried.

(f) D/ (Life Raft/Dinghies) Enter number carried and total capacity. Indicate if covered and color.

(g) A/ (Aircraft Color and Markings) Enter aircraft color(s).

EXAMPLE−
White Yellow Blue

4. N/ (Remarks. Not for ATC) select N if no remarks. Enter comments concerning survival equipment and information concerning personal GPS locating service, if utilized. Enter name and contact information for responsible party to verify VFR arrival/closure, if desired. Ensure party will be available for contact at ETA (for example; FBO is open at ETA).

5. C/ (Pilot) Enter name and contact information, including telephone number, of pilot-in-command. Ensure contact information will be valid at ETA in case SAR is necessary.

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:
APPROACH RUNWAY VERIFICATION
CONNECTION
DEPARTURE CLEARANCE (DCL) APPLICATION
DOWNLINK
ELIGIBILITY
PILOT INITIATED DOWNLINK (PID)
PRIOR PERMISSION REQUIRED (PPR)
TRAJECTORY ALTERING CLEARANCE (TAC)
TRANSFER OF COMMUNICATION (TOC)
UNIDENTIFIED ANOMALOUS PHENOMENA (UAP)
UPLINK

f. Terms Deleted:
CONSOLIDATED WAKE TURBULENCE (CWT)
WAKE RE-CATEGORIZATION (RECAT)

g. Terms Modified:
AIRCRAFT CLASSES
AIRCRAFT WAKE TURBULENCE CATEGORIES
NAVIGATION REFERENCE SYSTEM (NRS)
TERMINAL DATA LINK SYSTEM (TDLS)
TIE-IN FACILITY
WAKE TURBULENCE

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

AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER (ATCSCC)– An Air Traffic Tactical Operations facility responsible for monitoring and managing the flow of air traffic throughout the NAS, producing a safe, 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 Airmen (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 AIRMEN.)

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. The term is inclusive of all types, including but not limited to, airplane, glider, lighter-than-air, powered-lift, and rotorcraft.

(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) is classified as a super aircraft. A super aircraft is a Category A for terminal wake turbulence separation purposes.

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. Heavy aircraft are Category B, C, or D for terminal wake turbulence separation purposes.

c. Large– Aircraft of more than 41,000 pounds, maximum certificated takeoff weight, up to but not including 300,000 pounds. Large aircraft are Category F and G for terminal wake turbulence separation purposes.

d. Small– Aircraft of 41,000 pounds or less maximum certificated takeoff weight. Small aircraft are Category H and I for terminal wake turbulence separation purposes.

(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 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.)

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 MARSA applies as expanding elements effect separation within a flight or between subsequent participating flights.

b. ASLAR procedures must 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 WAKE CATEGORIES– For the purposes of Terminal Wake Turbulence Separation Minima, ATC classifies aircraft as Category A through Category I as follows:

a. CATEGORY A. The Airbus A–380–800 (A388) is classified as a super aircraft.

b. CATEGORY B, C, and D. 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. These are categorized as heavy aircraft.

c. CATEGORY E. All B757 aircraft.

d. CATEGORY F, and G. Aircraft weighing 41,000 pounds or more maximum certificated takeoff weight, up to but not including 300,000 pounds.

e. CATEGORY H and I. Aircraft of less than 41,000 pounds maximum certificated takeoff weight.

(Refer to AIM.)

AIRMEN'S METEOROLOGICAL INFORMATION (AIRMET)– A concise description of an occurrence or expected occurrence of specified en route weather phenomena that may affect the safety of aircraft operations, but at intensities lower than those that require the issuance of a SIGMET. An AIRMET may be issued when any of the following weather phenomena are occurring or expected to occur:

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 CONVECTIVE SIGMET.)
(See CWA.)
(See GRAPHICAL AIRMEN'S METEOROLOGICAL INFORMATION.)
(See SAW.)
(See SIGMET.)
(Refer to AIM.)

AIRPLANE– An engine-driven fixed-wing aircraft heavier than air that is supported in flight by the dynamic reaction of the air against its wings.

AIRPORT– An area on land or water that is used or intended to be used for the landing and takeoff of aircraft and includes its buildings and facilities, if any.

AIRPORT ADVISORY AREA– The area within ten miles of an airport without a control tower or where the tower is not in operation, and on which a Flight Service Station is located.

(See LOCAL AIRPORT ADVISORY.)
(Refer to AIM.)

AIRPORT ARRIVAL RATE (AAR)– A dynamic input parameter specifying the number of arriving aircraft which an airport or airspace can accept from the ARTCC per hour. The AAR is used to calculate the desired interval between successive arrival aircraft.

AIRPORT DEPARTURE RATE (ADR)– A dynamic parameter specifying the number of aircraft which can depart an airport and the airspace can accept per hour.

AIRPORT ELEVATION– The highest point of an airport's usable runways measured in feet from mean sea level.
(See TOUCHDOWN ZONE ELEVATION.)
(See ICAO term AERODROME ELEVATION.)

AIRPORT LIGHTING– Various lighting aids that may be installed on an airport. Types of airport lighting include:

a. Approach Light System (ALS)– An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his/her final approach for landing. Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with the ALS at some airports. Types of Approach Light Systems are:

1. ALSF-1– Approach Light System with Sequenced Flashing Lights in ILS Cat-I configuration.

2. ALSF-2– Approach Light System with Sequenced Flashing Lights in ILS Cat-II configuration. The ALSF-2 may operate as an SSALR when weather conditions permit.

3. SSALF– Simplified Short Approach Light System with Sequenced Flashing Lights.

4. SSALR– Simplified Short Approach Light System with Runway Alignment Indicator Lights.

5. MALSF– Medium Intensity Approach Light System with Sequenced Flashing Lights.

6. MALSR– Medium Intensity Approach Light System with Runway Alignment Indicator Lights.

7. RLLS– Runway Lead-in Light System Consists of one or more series of flashing lights installed at or near ground level that provides positive visual guidance along an approach path, either curving or straight, where special problems exist with hazardous terrain, obstructions, or noise abatement procedures.

8. RAIL– Runway Alignment Indicator Lights– Sequenced Flashing Lights which are installed only in combination with other light systems.

9. ODALS– Omnidirectional Approach Lighting System consists of seven omnidirectional flashing lights located in the approach area of a nonprecision runway. Five lights are located on the runway centerline extended with the first light located 300 feet from the threshold and extending at equal intervals up to 1,500 feet from the threshold. The other two lights are located, one on each side of the runway threshold, at a lateral distance of 40 feet from the runway edge, or 75 feet from the runway edge when installed on a runway equipped with a VASI.
(Refer to FAA Order JO 6850.2, Visual Guidance Lighting Systems.)

b. Runway Lights/Runway Edge Lights– Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway lights are uniformly spaced at intervals of approximately 200 feet, and the intensity may be controlled or preset.

c. Touchdown Zone Lighting– Two rows of transverse light bars located symmetrically about the runway centerline normally at 100 foot intervals. The basic system extends 3,000 feet along the runway.

d. Runway Centerline Lighting– Flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.

e. Threshold Lights– Fixed green lights arranged symmetrically left and right of the runway centerline, identifying the runway threshold.

f. Runway End Identifier Lights (REIL)– Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

g. Visual Approach Slope Indicator (VASI)– An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he/she is "on path" if he/she sees red/white, "above path" if white/white, and "below path" if red/red. Some airports serving large aircraft have three-bar VASIs which provide two visual glide paths to the same runway.

h. Precision Approach Path Indicator (PAPI)– An airport lighting facility, similar to VASI, providing vertical approach slope guidance to aircraft during approach to landing. PAPIs consist of a single row of either two or

four lights, normally installed on the left side of the runway, and have an effective visual range of about 5 miles during the day and up to 20 miles at night. PAPIs radiate a directional pattern of high intensity red and white focused light beams which indicate that the pilot is “on path” if the pilot sees an equal number of white lights and red lights, with white to the left of the red; “above path” if the pilot sees more white than red lights; and “below path” if the pilot sees more red than white lights.

i. Boundary Lights– Lights defining the perimeter of an airport or landing area.
(Refer to AIM.)

AIRPORT MARKING AIDS– Markings used on runway and taxiway surfaces to identify a specific runway, a runway threshold, a centerline, a hold line, etc. A runway should be marked in accordance with its present usage such as:

a. Visual.

b. Nonprecision instrument.

c. Precision instrument.
(Refer to AIM.)

AIRPORT REFERENCE POINT (ARP)– The approximate geometric center of all usable runway surfaces.

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 RUNWAY VERIFICATION– A STARS functionality that provides audible and visual alerts to tower and/or TRACON controllers when an aircraft is on its final approach course but *not* aligned with its assigned landing runway, or if the runway is closed.

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 Airmen (NOTAMs), 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.)

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 conflictions between aircraft that are radar identified and in communication with ATC by ensuring that radar targets do not touch. Pertinent traffic advisories must be issued when this procedure is applied.

Note: This procedure must 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.

CONNECTION– A virtual connection between the ground system and the aircraft for the exchange of CPDLC messages.

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

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

D

D–ATIS–
(See DIGITAL-AUTOMATIC TERMINAL INFORMATION SERVICE.)

D–ATIS [ICAO]–
(See ICAO Term DATA LINK AUTOMATIC TERMINAL INFORMATION SERVICE.)

DA [ICAO]–
(See ICAO Term DECISION ALTITUDE/DECISION HEIGHT.)

DAIR–
(See DIRECT ALTITUDE AND IDENTITY READOUT.)

DANGER AREA [ICAO]– An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

Note: The term “Danger Area” is not used in reference to areas within the United States or any of its possessions or territories.

DAS–
(See DELAY ASSIGNMENT.)

DATA BLOCK–
(See ALPHANUMERIC DISPLAY.)

DATA LINK AUTOMATIC TERMINAL INFORMATION SERVICE (D–ATIS) [ICAO]– The provision of ATIS via data link.

DCL–
(See DEPARTURE CLEARANCE APPLICATION.)

DCT–
(See DELAY COUNTDOWN TIMER.)

DEAD RECKONING– Dead reckoning, as applied to flying, is the navigation of an airplane solely by means of computations based on airspeed, course, heading, wind direction, and speed, groundspeed, and elapsed time.

DEBRIS RESPONSE AREA (DRA)– Used by ATC. Areas of airspace that may be activated in response to unplanned falling debris in the NAS.

DECISION ALTITUDE/DECISION HEIGHT [ICAO Annex 6]- A specified altitude or height (A/H) in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.
1. Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation.
2. Category II and III minima are expressed as a DH and not a DA. Minima is assessed by reference to a radio altimeter and not a barometric altimeter, which makes the minima a DH.
3. The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path.

DECISION ALTITUDE (DA)– A specified altitude (mean sea level (MSL)) on an instrument approach procedure (ILS, GLS, vertically guided RNAV) at which the pilot must decide whether to continue the approach or initiate an immediate missed approach if the pilot does not see the required visual references.

DECISION HEIGHT (DH)– With respect to the operation of aircraft, means the height at which a decision must be made during an ILS or PAR instrument approach to either continue the approach or to execute a missed approach.
(See ICAO term DECISION ALTITUDE/DECISION HEIGHT.)

DECODER– The device used to decipher signals received from ATCRBS transponders to effect their display as select codes.

(See CODES.)

(See RADAR.)

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

DEFENSE VISUAL FLIGHT RULES– Rules applicable to flights within an ADIZ conducted under the visual flight rules in 14 CFR part 91.

(See AIR DEFENSE IDENTIFICATION ZONE.)

(Refer to 14 CFR part 91.)

(Refer to 14 CFR part 99.)

DELAY ASSIGNMENT (DAS)– Delays are distributed to aircraft based on the traffic management program parameters. The delay assignment is calculated in 15–minute increments and appears as a table in Traffic Flow Management System (TFMS).

DELAY COUNTDOWN TIMER (DCT)– The display of the delay that must be absorbed by a flight prior to crossing a Meter Reference Element (MRE) to meet the TBFM Scheduled Time of Arrival (STA). It is calculated by taking the difference between the frozen STA and the Estimated Time of Arrival (ETA).

DELAY INDEFINITE (REASON IF KNOWN) EXPECT FURTHER CLEARANCE (TIME)– Used by ATC to inform a pilot when an accurate estimate of the delay time and the reason for the delay cannot immediately be determined; e.g., a disabled aircraft on the runway, terminal or center area saturation, weather below landing minimums, etc.

(See EXPECT FURTHER CLEARANCE (TIME).)

DEPARTURE CENTER– The ARTCC having jurisdiction for the airspace that generates a flight to the impacted airport.

DEPARTURE CLEARANCE (DCL) APPLICATION– The DCL application provides up to nine Selectable Fields for the tower controller to enter all other clearance information.

DEPARTURE CONTROL– A function of an approach control facility providing air traffic control service for departing IFR and, under certain conditions, VFR aircraft.

(See APPROACH CONTROL FACILITY.)

(Refer to AIM.)

DEPARTURE SEQUENCING PROGRAM– A program designed to assist in achieving a specified interval over a common point for departures.

DEPARTURE TIME– The time an aircraft becomes airborne.

DEPARTURE VIEWER– A capability within the Traffic Flow Management System (TFMS) that provides combined displays for monitoring departure by fixes and departure airports. Traffic management personnel can customize the displays by selecting the departure airports and fixes of interest. The information displayed is the demand for the resource (fix or departure airport) in time bins with the flight list and a flight history for one flight at a time. From the display, flights can be selected for route amendment, one or more at a time, and the Route Amendment Dialogue (RAD) screen automatically opens for easy route selection and execution. Reroute options are based on Coded Departure Route (CDR) database and Trajectory Options Set (TOS) (when available).

DESCEND VIA– An abbreviated ATC clearance that requires compliance with a published procedure lateral path and associated speed restrictions and provides a pilot-discretion descent to comply with published altitude restrictions.

DESCENT SPEED ADJUSTMENTS– Speed deceleration calculations made to determine an accurate VTA. These calculations start at the transition point and use arrival speed segments to the vertex.

DESIGNATED COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AREA– In Alaska, in addition to being designated for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating airport traffic control tower, a CTAF may also be designated for the purpose of carrying out advisory practices for operations in and through areas with a high volume of VFR traffic.

DESIRED COURSE–

a. True– A predetermined desired course direction to be followed (measured in degrees from true north).

b. Magnetic– A predetermined desired course direction to be followed (measured in degrees from local magnetic north).

DESIRED TRACK– The planned or intended track between two waypoints. It is measured in degrees from either magnetic or true north. The instantaneous angle may change from point to point along the great circle track between waypoints.

DETRESFA (DISTRESS PHASE) [ICAO]– The code word used to designate an emergency phase wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

DEVIATION–

a. A departure from a current clearance, such as an off course maneuver to avoid weather or turbulence.

b. Where specifically authorized in the CFRs and requested by the pilot, ATC may permit pilots to deviate from certain regulations.

DH–

(See DECISION HEIGHT.)

DH [ICAO]–

(See ICAO Term DECISION ALTITUDE/ DECISION HEIGHT.)

DIGITAL-AUTOMATIC TERMINAL INFORMATION SERVICE (D-ATIS)– The service provides text messages to aircraft, airlines, and other users outside the standard reception range of conventional ATIS via landline and data link communications to the cockpit. Also, the service provides a computer–synthesized voice message that can be transmitted to all aircraft within range of existing transmitters. The Terminal Data Link System (TDLS) D-ATIS application uses weather inputs from local automated weather sources or manually entered meteorological data together with preprogrammed menus to provide standard information to users. Airports with D-ATIS capability are listed in the Chart Supplement U.S.

DIGITAL TARGET– A computer–generated symbol representing an aircraft's position, based on a primary return or radar beacon reply, shown on a digital display.

DIGITAL TERMINAL AUTOMATION SYSTEM (DTAS)– A system where digital radar and beacon data is presented on digital displays and the operational program monitors the system performance on a real–time basis.

DIGITIZED TARGET– A computer–generated indication shown on an analog radar display resulting from a primary radar return or a radar beacon reply.

DIRECT– Straight line flight between two navigational aids, fixes, points, or any combination thereof. When used by pilots in describing off-airway routes, points defining direct route segments become compulsory reporting points unless the aircraft is under radar contact.

DIRECTLY BEHIND– An aircraft is considered to be operating directly behind when it is following the actual flight path of the lead aircraft over the surface of the earth except when applying wake turbulence separation criteria.

DISCRETE BEACON CODE–

(See DISCRETE CODE.)

DISCRETE CODE– As used in the Air Traffic Control Radar Beacon System (ATCRBS), any one of the 4096 selectable Mode 3/A aircraft transponder codes except those ending in zero zero; e.g., discrete codes: 0010, 1201,

2317, 7777; nondiscrete codes: 0100, 1200, 7700. Nondiscrete codes are normally reserved for radar facilities that are not equipped with discrete decoding capability and for other purposes such as emergencies (7700), VFR aircraft (1200), etc.
(See RADAR.)
(Refer to AIM.)

DISCRETE FREQUENCY− A separate radio frequency for use in direct pilot-controller communications in air traffic control which reduces frequency congestion by controlling the number of aircraft operating on a particular frequency at one time. Discrete frequencies are normally designated for each control sector in en route/terminal ATC facilities. Discrete frequencies are listed in the Chart Supplement U.S. and the DoD FLIP IFR En Route Supplement.
(See CONTROL SECTOR.)

DISPLACED THRESHOLD− A threshold that is located at a point on the runway other than the designated beginning of the runway.
(See THRESHOLD.)
(Refer to AIM.)

DISTANCE MEASURING EQUIPMENT (DME)− Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.
(See TACAN.)
(See VORTAC.)

DISTRESS− A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

DIVE BRAKES−
(See SPEED BRAKES.)

DIVERSE VECTOR AREA− In a radar environment, that area in which a prescribed departure route is not required as the only suitable route to avoid obstacles. The area in which random radar vectors below the MVA/MIA, established in accordance with the TERPS criteria for diverse departures, obstacles and terrain avoidance, may be issued to departing aircraft.

DIVERSION (DVRSN)− Flights that are required to land at other than their original destination for reasons beyond the control of the pilot/company, e.g. periods of significant weather.

DME−
(See DISTANCE MEASURING EQUIPMENT.)

DME FIX− A geographical position determined by reference to a navigational aid which provides distance and azimuth information. It is defined by a specific distance in nautical miles and a radial, azimuth, or course (i.e., localizer) in degrees magnetic from that aid.
(See DISTANCE MEASURING EQUIPMENT.)
(See FIX.)

DME SEPARATION− Spacing of aircraft in terms of distances (nautical miles) determined by reference to distance measuring equipment (DME).
(See DISTANCE MEASURING EQUIPMENT.)

DoD FLIP− Department of Defense Flight Information Publications used for flight planning, en route, and terminal operations. FLIP is produced by the National Geospatial−Intelligence Agency (NGA) for world-wide use. United States Government Flight Information Publications (en route charts and instrument approach procedure charts) are incorporated in DoD FLIP for use in the National Airspace System (NAS).

DOMESTIC AIRSPACE− Airspace which overlies the continental land mass of the United States plus Hawaii and U.S. possessions. Domestic airspace extends to 12 miles offshore.

DOMESTIC NOTICE− A special notice or notice containing graphics or plain language text pertaining to almost every aspect of aviation, such as military training areas, large scale sporting events, air show information, Special

Traffic Management Programs (STMPs), and airport–specific information. These notices are applicable to operations within the United States and can be found on the Domestic Notices website.

DOWNBURST– A strong downdraft which induces an outburst of damaging winds on or near the ground. Damaging winds, either straight or curved, are highly divergent. The sizes of downbursts vary from 1/2 mile or less to more than 10 miles. An intense downburst often causes widespread damage. Damaging winds, lasting 5 to 30 minutes, could reach speeds as high as 120 knots.

DOWNLINK– CPDLC message sent from the flight deck to ATC.

DOWNWIND LEG–
(See TRAFFIC PATTERN.)

DP–
(See INSTRUMENT DEPARTURE PROCEDURE.)

DRA–
(See DEBRIS RESPONSE AREA.)

DRAG CHUTE– A parachute device installed on certain aircraft which is deployed on landing roll to assist in deceleration of the aircraft.

DROP ZONE– Any pre-determined area upon which parachutists or objects land after making an intentional parachute jump or drop.
(Refer to 14 CFR §105.3, Definitions)

DSP–
(See DEPARTURE SEQUENCING PROGRAM.)

DTAS–
(See DIGITAL TERMINAL AUTOMATION SYSTEM.)

DUE REGARD– A phase of flight wherein an aircraft commander of a State-operated aircraft assumes responsibility to separate his/her aircraft from all other aircraft.
(See also FAA Order JO 7110.65, Para 1–2–1, WORD MEANINGS.)

DUTY RUNWAY–
(See RUNWAY IN USE/ACTIVE RUNWAY/DUTY RUNWAY.)

DVA–
(See DIVERSE VECTOR AREA.)

DVFR–
(See DEFENSE VISUAL FLIGHT RULES.)

DVFR FLIGHT PLAN– A flight plan filed for a VFR aircraft which intends to operate in airspace within which the ready identification, location, and control of aircraft are required in the interest of national security.

DVRSN–
(See DIVERSION.)

DYNAMIC– Continuous review, evaluation, and change to meet demands.

DYNAMIC RESTRICTIONS– Those restrictions imposed by the local facility on an “as needed” basis to manage unpredictable fluctuations in traffic demands.

E

E-MSAW–
(See EN ROUTE MINIMUM SAFE ALTITUDE WARNING.)

EAS–
(See EN ROUTE AUTOMATION SYSTEM.)

EDCT–
(See EXPECT DEPARTURE CLEARANCE TIME.)

EDST–
(See EN ROUTE DECISION SUPPORT TOOL)

EFC–
(See EXPECT FURTHER CLEARANCE (TIME).)

ELIGIBILITY– Designates which sector is eligible to exchange CPDLC messages with a specific aircraft.

ELT–
(See EMERGENCY LOCATOR TRANSMITTER.)

EMBEDDED ROUTE TEXT– An EDST notification that an ADR/ADAR/AAR has been applied to the flight plan. Within the route field, sub–fields consisting of an adapted route or an embedded change in the route are color–coded in cyan with cyan brackets around the sub–field.
(See EN ROUTE DECISION SUPPORT TOOL.)

EMERGENCY– A distress or an urgency condition.

EMERGENCY AUTOLAND SYSTEM– This system, if activated, will determine an optimal airport, plot a course, broadcast the aircraft's intentions, fly to the airport, land, and (depending on the model) shut down the engines. Though the system will broadcast the aircraft's intentions, the controller should assume that transmissions to the aircraft will not be acknowledged.

EMERGENCY DESCENT MODE– This automated system senses conditions conducive to hypoxia (cabin depressurization). If an aircraft is equipped and the system is activated, it is designed to turn the aircraft up to 90 degrees, then descend to a lower altitude and level off, giving the pilot(s) time to recover.

EMERGENCY LOCATOR TRANSMITTER (ELT)– A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.
(Refer to 14 CFR part 91.)
(Refer to AIM.)

ENHANCED FLIGHT VISION SYSTEM (EFVS)– An EFVS is an installed aircraft system which uses an electronic means to provide a display of the forward external scene topography (the natural or man–made features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors, including but not limited to forward–looking infrared, millimeter wave radiometry, millimeter wave radar, or low–light level image intensification. An EFVS includes the display element, sensors, computers and power supplies, indications, and controls. An operator's authorization to conduct an EFVS operation may have provisions which allow pilots to conduct IAPs when the reported weather is below minimums prescribed on the IAP to be flown.

ENHANCED SPECIAL REPORTING SERVICE (eSRS)– An automated service used to enhance search and rescue operations that provides flight service specialists in Alaska direct information from the aircraft's registered tracking device.

EN ROUTE AIR TRAFFIC CONTROL SERVICES– Air traffic control service provided aircraft on IFR flight plans, generally by centers, when these aircraft are operating between departure and destination terminal areas. When equipment, capabilities, and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.
(See AIR ROUTE TRAFFIC CONTROL CENTER.)
(Refer to AIM.)

EN ROUTE AUTOMATION SYSTEM (EAS)– The complex integrated environment consisting of situation display systems, surveillance systems and flight data processing, remote devices, decision support tools, and the related communications equipment that form the heart of the automated IFR air traffic control system. It interfaces with automated terminal systems and is used in the control of en route IFR aircraft.
(Refer to AIM.)

EN ROUTE CHARTS–
(See AERONAUTICAL CHART.)

EN ROUTE DECISION SUPPORT TOOL (EDST)– An automated tool provided at each Radar Associate position in selected En Route facilities. This tool utilizes flight and radar data to determine present and future trajectories for all active and proposal aircraft and provides enhanced automated flight data management.

EN ROUTE DESCENT– Descent from the en route cruising altitude which takes place along the route of flight.

EN ROUTE HIGH ALTITUDE CHARTS–
(See AERONAUTICAL CHART.)

EN ROUTE LOW ALTITUDE CHARTS–
(See AERONAUTICAL CHART.)

EN ROUTE MINIMUM SAFE ALTITUDE WARNING (E–MSAW)– A function of the EAS that aids the controller by providing an alert when a tracked aircraft is below or predicted by the computer to go below a predetermined minimum IFR altitude (MIA).

EN ROUTE TRANSITION–
(See SEGMENTS OF A SID/STAR.)

EN ROUTE TRANSITION WAYPOINT
(See SEGMENTS OF A SID/STAR.)

eSRS–
(See ENHANCED SPECIAL REPORTING SERVICE.)

EST–
(See ESTIMATED.)

ESTABLISHED– To be stable or fixed at an altitude or on a course, route, route segment, heading, instrument approach or departure procedure, etc.

ESTABLISHED ON RNP (EoR) CONCEPT– A system of authorized instrument approaches, ATC procedures, surveillance, and communication requirements that allow aircraft operations to be safely conducted with approved reduced separation criteria once aircraft are established on a PBN segment of a published instrument flight procedure.

ESTIMATED (EST)–When used in NOTAMs “EST” is a contraction that is used by the issuing authority only when the condition is expected to return to service prior to the expiration time. Using “EST” lets the user know that this NOTAM has the possibility of returning to service earlier than the expiration time. Any NOTAM which includes an “EST” will be auto–expired at the designated expiration time.

ESTIMATED ELAPSED TIME [ICAO]– The estimated time required to proceed from one significant point to another.
(See ICAO Term TOTAL ESTIMATED ELAPSED TIME.)

ESTIMATED OFF-BLOCK TIME [ICAO]– The estimated time at which the aircraft will commence movement associated with departure.

ESTIMATED POSITION ERROR (EPE)–
(See Required Navigation Performance)

ESTIMATED TIME OF ARRIVAL– The time the flight is estimated to arrive at the gate (scheduled operators) or the actual runway on times for nonscheduled operators.

ESTIMATED TIME EN ROUTE– The estimated flying time from departure point to destination (lift-off to touchdown).

ETA–
(See ESTIMATED TIME OF ARRIVAL.)

ETE–
(See ESTIMATED TIME EN ROUTE.)

EXECUTE MISSED APPROACH– Instructions issued to a pilot making an instrument approach which means continue inbound to the missed approach point and execute the missed approach procedure as described on the Instrument Approach Procedure Chart or as previously assigned by ATC. The pilot may climb immediately to the altitude specified in the missed approach procedure upon making a missed approach. No turns should be initiated prior to reaching the missed approach point. When conducting an ASR or PAR approach, execute the assigned missed approach procedure immediately upon receiving instructions to "execute missed approach."
(Refer to AIM.)

EXPECT (ALTITUDE) AT (TIME) or (FIX)– Used under certain conditions to provide a pilot with an altitude to be used in the event of two-way communications failure. It also provides altitude information to assist the pilot in planning.
(Refer to AIM.)

EXPECT DEPARTURE CLEARANCE TIME (EDCT)– The runway release time assigned to an aircraft in a traffic management program and shown on the flight progress strip as an EDCT.
(See GROUND DELAY PROGRAM.)

EXPECT FURTHER CLEARANCE (TIME)– The time a pilot can expect to receive clearance beyond a clearance limit.

EXPECT FURTHER CLEARANCE VIA (AIRWAYS, ROUTES OR FIXES)– Used to inform a pilot of the routing he/she can expect if any part of the route beyond a short range clearance limit differs from that filed.

EXPEDITE– Used by ATC when prompt compliance is required to avoid the development of an imminent situation. Expedite climb/descent normally indicates to a pilot that the approximate best rate of climb/descent should be used without requiring an exceptional change in aircraft handling characteristics.

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 Airmen, 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 for use within the United States for flight planning and navigation without reference to ground based navigational aids. These waypoints are located in a grid pattern along defined latitude and longitude lines and are available for use at or above FL180 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.

NON–COOPERATIVE SURVEILLANCE– Any surveillance system, such as primary radar, that is not dependent upon the presence of any equipment on the aircraft or vehicle to be tracked.

(See COOPERATIVE SURVEILLANCE.)

(See RADAR.)

P

P TIME–
(See PROPOSED DEPARTURE TIME.)

P-ACP–
(See PREARRANGED COORDINATION PROCEDURES.)

PAN-PAN– The international radio-telephony urgency signal. When repeated three times, indicates uncertainty or alert followed by the nature of the urgency.
(See MAYDAY.)
(Refer to AIM.)

PAO–
(See PUBLIC AIRCRAFT OPERATION.)

PAR–
(See PRECISION APPROACH RADAR.)

PAR [ICAO]–
(See ICAO Term PRECISION APPROACH RADAR.)

PARALLEL ILS APPROACHES– Approaches to parallel runways by IFR aircraft which, when established inbound toward the airport on the adjacent final approach courses, are radar-separated by at least 2 miles.
(See FINAL APPROACH COURSE.)
(See SIMULTANEOUS ILS APPROACHES.)

PARALLEL OFFSET ROUTE– A parallel track to the left or right of the designated or established airway/route. Normally associated with Area Navigation (RNAV) operations.
(See AREA NAVIGATION.)

PARALLEL RUNWAYS– Two or more runways at the same airport whose centerlines are parallel. In addition to runway number, parallel runways are designated as L (left) and R (right) or, if three parallel runways exist, L (left), C (center), and R (right).

PBCT–
(See PROPOSED BOUNDARY CROSSING TIME.)

PBN–
(See ICAO Term PERFORMANCE–BASED NAVIGATION.)

PDC–
(See PRE–DEPARTURE CLEARANCE.)

PDRR–
(See PRE–DEPARTURE REROUTE.)

PERFORMANCE–BASED NAVIGATION (PBN) [ICAO]– Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Note: Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability, and functionality needed for the proposed operation in the context of a particular airspace concept.

PERMANENT ECHO– Radar signals reflected from fixed objects on the earth's surface; e.g., buildings, towers, terrain. Permanent echoes are distinguished from "ground clutter" by being definable locations rather than large areas. Under certain conditions they may be used to check radar alignment.

PERTI–
(See PLAN, EXECUTE, REVIEW, TRAIN, IMPROVE.)

PGUI–
(See PLANVIEW GRAPHICAL USER INTERFACE.)

PHOTO RECONNAISSANCE– Military activity that requires locating individual photo targets and navigating to the targets at a preplanned angle and altitude. The activity normally requires a lateral route width of 16 NM and altitude range of 1,500 feet to 10,000 feet AGL.

PILOT BRIEFING– 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 temporary flight restrictions [TFR]).
(Refer to AIM.)

PILOT IN COMMAND– The pilot responsible for the operation and safety of an aircraft during flight time.
(Refer to 14 CFR part 91.)

PILOT INITIATED DOWNLINK (PID)– Any message exchange that originates from the flight deck.

PILOT WEATHER REPORT– A report of meteorological phenomena encountered by aircraft in flight.
(Refer to AIM.)

PILOT'S DISCRETION– When used in conjunction with altitude assignments, means that ATC has offered the pilot the option of starting climb or descent whenever he/she wishes and conducting the climb or descent at any rate he/she wishes. He/she may temporarily level off at any intermediate altitude. However, once he/she has vacated an altitude, he/she may not return to that altitude.

PIREP–
(See PILOT WEATHER REPORT.)

PITCH POINT– A fix/waypoint that serves as a transition point from a departure procedure or the low altitude ground–based navigation structure into the high altitude waypoint system.

PLAN, EXECUTE, REVIEW, TRAIN, IMPROVE (PERTI)– A process that delivers a one–day detailed plan for NAS operations, and a two–day outlook, which sets NAS performance goals for high impact constraints. PLAN: Increase lead time for identifying aviation system constraint planning and goals while utilizing historical NAS performance data and constraints to derive successful and/or improved advance planning strategies. EXECUTE: Set goals and a strategy. The Air Traffic Control System Command Center (ATCSCC), FAA field facilities, and aviation stakeholders execute the strategy and work to achieve the desired/planned outcomes. REVIEW: Utilize post event analysis and lessons learned to define and implement future strategies and operational triggers based on past performance and outcomes, both positive and negative. TRAIN: Develop training that includes rapid and continuous feedback to operational personnel and provides increased data and weather knowledge and tools for analytical usage and planning. IMPROVE: Implement better information sharing processes, technologies, and procedures that improve the skills and technology needed to implement operational insights and improvements.

PLANS DISPLAY– A display available in EDST that provides detailed flight plan and predicted conflict information in textual format for requested Current Plans and all Trial Plans.
(See EN ROUTE DECISION SUPPORT TOOL)

PLANVIEW GRAPHICAL USER INTERFACE (PGUI)– A TBFM display that provides a spatial display of individual aircraft track information.

POFZ–
(See PRECISION OBSTACLE FREE ZONE.)

POINT OUT–
(See RADAR POINT OUT.)

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.

POWERED-LIFT– A heavier-than-air aircraft capable of vertical takeoff, vertical landing, and low-speed flight that depends principally on engine-driven lift devices during these flight regimes and on nonrotating airfoil(s) for lift during horizontal flight. Powered-lift aircraft can operate on routes or altitudes specifically prescribed for powered-lift by the FAA.

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 must 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.

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.)

PRIMARY RADAR TARGET– An analog or digital target, exclusive of a secondary radar target, presented on a radar display.

PRIOR PERMISSION REQUIRED (PPR)– Prior Permission Required (PPR) means prior permission required to have full operational use of a runway, taxiway, apron, or airport facility/service. Means of communication to the airport can be telephone and/or radio. If PPR and another exception are used in same NOTAM, the PPR should come first.

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

PRM APPROACH– An instrument approach procedure titled ILS PRM, RNAV PRM, LDA PRM, or GLS PRM conducted to parallel runways separated by less than 4,300 feet and at least 3,000 feet where independent closely spaced approaches are permitted. Use of an enhanced display with alerting, a No Transgression Zone (NTZ), secondary monitor frequency, pilot PRM training, and publication of an Attention All Users Page are required for all PRM approaches. Depending on the runway spacing, the approach courses may be parallel or one approach course must be offset. PRM procedures are also used to conduct Simultaneous Offset Instrument Approach (SOIA) operations. In SOIA, one straight–in ILS PRM, RNAV PRM, GLS PRM, and one offset LDA PRM, RNAV PRM or GLS PRM approach are utilized. PRM procedures are terminated and a visual segment begins at the offset approach missed approach point where the minimum distance between the approach courses is 3000 feet. Runway spacing can be as close as 750 feet.
(Refer to AIM.)

PROCEDURAL CONTROL [ICAO]– Term used to indicate that information derived from an ATS surveillance system is not required for the provision of air traffic control service.

PROCEDURAL SEPARATION [ICAO]– The separation used when providing procedural control.

PROCEDURE TURN– The maneuver prescribed when it is necessary to reverse direction to establish an aircraft on the intermediate approach segment or final approach course. The outbound course, direction of turn, distance within which the turn must be completed, and minimum altitude are specified in the procedure. However, unless otherwise restricted, the point at which the turn may be commenced and the type and rate of turn are left to the discretion of the pilot.
(See ICAO term PROCEDURE TURN.)

PROCEDURE TURN [ICAO]– A maneuver in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.
Note 1: Procedure turns are designated “left” or “right” according to the direction of the initial turn.
Note 2: Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual approach procedure.

PROCEDURE TURN INBOUND– That point of a procedure turn maneuver where course reversal has been completed and an aircraft is established inbound on the intermediate approach segment or final approach course. A report of “procedure turn inbound” is normally used by ATC as a position report for separation purposes.
(See FINAL APPROACH COURSE.)
(See PROCEDURE TURN.)
(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

PROFILE DESCENT– An uninterrupted descent (except where level flight is required for speed adjustment; e.g., 250 knots at 10,000 feet MSL) from cruising altitude/level to interception of a glideslope or to a minimum altitude specified for the initial or intermediate approach segment of a nonprecision instrument approach. The profile descent normally terminates at the approach gate or where the glideslope or other appropriate minimum altitude is intercepted.

PROGRESS REPORT–
(See POSITION REPORT.)

PROGRESSIVE TAXI– Precise taxi instructions given to a pilot unfamiliar with the airport or issued in stages as the aircraft proceeds along the taxi route.

PROHIBITED AREA–
(See SPECIAL USE AIRSPACE.)
(See ICAO term PROHIBITED AREA.)

PROHIBITED AREA [ICAO]– An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

PROMINENT OBSTACLE– An obstacle that meets one or more of the following conditions:

a. An obstacle which stands out beyond the adjacent surface of surrounding terrain and immediately projects a noticeable hazard to aircraft in flight.

b. An obstacle, not characterized as low and close in, whose height is no less than 300 feet above the departure end of takeoff runway (DER) elevation, is within 10 NM from the DER, and that penetrates that airport/heliport's diverse departure obstacle clearance surface (OCS).

c. An obstacle beyond 10 NM from an airport/heliport that requires an obstacle departure procedure (ODP) to ensure obstacle avoidance.

(See OBSTACLE.)
(See OBSTRUCTION.)

PROPELLER (PROP) WASH (PROP BLAST)– The disturbed mass of air generated by the motion of a propeller.

PROPOSED BOUNDARY CROSSING TIME– Each center has a PBCT parameter for each internal airport. Proposed internal flight plans are transmitted to the adjacent center if the flight time along the proposed route from the departure airport to the center boundary is less than or equal to the value of PBCT or if airport adaptation specifies transmission regardless of PBCT.

PROPOSED DEPARTURE TIME– The time that the aircraft expects to become airborne.

PROTECTED AIRSPACE– The airspace on either side of an oceanic route/track that is equal to one-half the lateral separation minimum except where reduction of protected airspace has been authorized.

PROTECTED SEGMENT- The protected segment is a segment on the amended TFM route that is to be inhibited from automatic adapted route alteration by ERAM.

PT–
(See PROCEDURE TURN.)

PTP–
(See POINT–TO–POINT.)

PTS–
(See POLAR TRACK STRUCTURE.)

PUBLIC AIRCRAFT OPERATION (PAO)– A UAS operation meeting the qualifications and conditions required for the operation of a public aircraft.

(See AC–1.1)
(See AIM)

PUBLISHED INSTRUMENT APPROACH PROCEDURE VISUAL SEGMENT– A segment on an IAP chart annotated as "Fly Visual to Airport" or "Fly Visual." A dashed arrow will indicate the visual flight path on the profile and plan view with an associated note on the approximate heading and distance. The visual segment should be flown with flight instrumentation (when advisory lateral and vertical guidance is provided) and/or pilotage or dead reckoning navigation techniques while maintaining visual conditions.

PUBLISHED ROUTE– A route for which an IFR altitude has been established and published; e.g., Federal Airways, Jet Routes, Area Navigation Routes, Specified Direct Routes.

PWS–
(See PREDICTIVE WIND SHEAR ALERT SYSTEM.)

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 https://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, for subscribers, in a text message via data link to the cockpit or to a gate printer. TDLS also provides the CPDLC Departure Clearance Application (DCL) and 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 telecommunications 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 accessible through 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 must 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

ground–based air traffic surveillance sensors, typically from radar targets. TIS–B service will be available throughout the NAS where there are both adequate surveillance coverage (radar) and adequate broadcast coverage from ADS–B ground stations. Loss of TIS–B will occur when an aircraft enters an area not covered by the GBT network. If this occurs in an area with adequate surveillance coverage (radar), nearby aircraft that remain within the adequate broadcast coverage (ADS–B) area will view the first aircraft. TIS–B may continue when an aircraft enters an area with inadequate surveillance coverage (radar); nearby aircraft that remain within the adequate broadcast coverage (ADS–B) area will not view the first aircraft.

TRAFFIC IN SIGHT– Used by pilots to inform a controller that previously issued traffic is in sight.
(See NEGATIVE CONTACT.)
(See TRAFFIC ADVISORIES.)

TRAFFIC MANAGEMENT INITIATIVE (TMI)– Tools used to manage demand with capacity in the National Airspace System (NAS.) TMIs can be used to manage NAS resources (e.g., airports, sectors, airspace) or to increase the efficiency of the operation. TMIs can be either tactical (i.e., short term) or strategic (i.e., long term), depending on the type of TMI and the operational need.

TRAFFIC MANAGEMENT PROGRAM ALERT– A term used in a Notice to Airmen (NOTAM) issued in conjunction with a special traffic management program to alert pilots to the existence of the program and to refer them to a special traffic management program advisory message for program details. The contraction TMPA is used in NOTAM text.

TRAFFIC MANAGEMENT UNIT– The entity in ARTCCs and designated terminals directly involved in the active management of facility traffic. Usually under the direct supervision of an assistant manager for traffic management.

TRAFFIC NO FACTOR– Indicates that the traffic described in a previously issued traffic advisory is no factor.

TRAFFIC NO LONGER OBSERVED– Indicates that the traffic described in a previously issued traffic advisory is no longer depicted on radar, but may still be a factor.

TRAFFIC PATTERN– The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are departure, upwind leg, crosswind leg, downwind leg, base leg, and final approach.

a. Upwind Leg– A flight path that begins after departure and continues straight ahead along the extended runway centerline. Upwind leg is an extension of departure and is used when issuing control instructions for separation, spacing or sequencing.

b. Crosswind Leg– A flight path at right angles to the landing runway off its upwind end.

c. Downwind Leg– A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.

d. Base Leg– A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.

NOTE–
ATC may instruct a pilot to report a "2-mile left base" to Runway 22. This instruction means that the pilot is expected to maneuver their aircraft into a left base leg that will intercept a straight-in final 2 miles from the approach end of Runway 22 and advise ATC.

REFERENCE–
Pilot's Handbook of Aeronautical Knowledge, FAA–H–8083–25, Chapter 14, Airport Operations, Traffic Patterns.

e. Final Approach– A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. An aircraft making a straight-in approach VFR is also considered to be on final approach.

NOTE–
ATC may instruct a pilot to report "5-mile final" to Runway 22. This instruction means that the pilot should maneuver their aircraft onto a straight-in final and advise ATC when they are five miles from the approach end of Runway 22.

f. Departure– The flight path that begins after takeoff and continues straight ahead along the extended runway centerline. The departure climb continues until reaching a point at least 1/2 mile beyond the departure end of the runway and within 300 feet of the traffic pattern altitude.

REFERENCE–

Pilot's Handbook of Aeronautical Knowledge, FAA–H–8083–25, Chapter 14, Airport Operations, Traffic Patterns.

(See STRAIGHT-IN APPROACH VFR.)

(See TAXI PATTERNS.)

(See ICAO term AERODROME TRAFFIC CIRCUIT.)

(Refer to 14 CFR part 91.)

(Refer to AIM.)

TRAFFIC SITUATION DISPLAY (TSD)– TSD is a computer system that receives radar track data from all 20 CONUS ARTCCs, organizes this data into a mosaic display, and presents it on a computer screen. The display allows the traffic management coordinator multiple methods of selection and highlighting of individual aircraft or groups of aircraft. The user has the option of superimposing these aircraft positions over any number of background displays. These background options include ARTCC boundaries, any stratum of en route sector boundaries, fixes, airways, military and other special use airspace, airports, and geopolitical boundaries. By using the TSD, a coordinator can monitor any number of traffic situations or the entire systemwide traffic flows.

TRAJECTORY– A EDST representation of the path an aircraft is predicted to fly based upon a Current Plan or Trial Plan.

(See EN ROUTE DECISION SUPPORT TOOL.)

TRAJECTORY ALTERING CLEARANCE (TAC)– A clearance that alters altitude, speed, heading, or route.

TRAJECTORY–BASED OPERATIONS (TBO)– An Air Traffic Management method for strategically planning and managing flights throughout the operation by using Time–Based Management (TBM), information exchange between air and ground systems, and the aircraft's ability to fly trajectories in time and space. Aircraft trajectory is defined in four dimensions – latitude, longitude, altitude, and time.

TRAJECTORY MODELING– The automated process of calculating a trajectory.

TRAJECTORY OPTIONS SET (TOS)– A TOS is an electronic message, submitted by the operator, that is used by the Collaborative Trajectory Options Program (CTOP) to manage the airspace captured in the traffic management program. The TOS will allow the operator to express the route and delay trade-off options that they are willing to accept.

TRANSFER OF COMMUNICATION (TOC)– A CPDLC uplink that instructs the pilot to either contact or monitor the next air traffic radio frequency.

TRANSFER OF CONTROL– That action whereby the responsibility for the separation of an aircraft is transferred from one controller to another.

(See ICAO term TRANSFER OF CONTROL.)

TRANSFER OF CONTROL [ICAO]– Transfer of responsibility for providing air traffic control service.

TRANSFERRING CONTROLLER– A controller/facility transferring control of an aircraft to another controller/facility.

(See ICAO term TRANSFERRING UNIT/CONTROLLER.)

TRANSFERRING FACILITY–

(See TRANSFERRING CONTROLLER.)

TRANSFERRING UNIT/CONTROLLER [ICAO]– Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight.

Note: See definition of accepting unit/controller.

TRANSITION– The general term that describes the change from one phase of flight or flight condition to another; e.g., transition from en route flight to the approach or transition from instrument flight to visual flight.

TRANSITION POINT– A point at an adapted number of miles from the vertex at which an arrival aircraft would normally commence descent from its en route altitude. This is the first fix adapted on the arrival speed segments.

TRANSITIONAL AIRSPACE– That portion of controlled airspace wherein aircraft change from one phase of flight or flight condition to another.

TRANSITIONAL HAZARD AREA (THA)– Used by ATC. Airspace normally associated with an Aircraft Hazard Area within which the flight of aircraft is subject to restrictions.
(See AIRCRAFT HAZARD AREA.)
(See CONTINGENCY HAZARD AREA.)
(See REFINED HAZARD AREA.)

TRANSMISSOMETER– An apparatus used to determine visibility by measuring the transmission of light through the atmosphere. It is the measurement source for determining runway visual range (RVR).
(See VISIBILITY.)

TRANSMITTING IN THE BLIND– A transmission from one station to other stations in circumstances where two-way communication cannot be established, but where it is believed that the called stations may be able to receive the transmission.

TRANSPONDER– The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Radar Beacon System (ATCRBS) which automatically receives radio signals from interrogators on the ground, and selectively replies with a specific reply pulse or pulse group only to those interrogations being received on the mode to which it is set to respond.
(See INTERROGATOR.)
(See ICAO term TRANSPONDER.)
(Refer to AIM.)

TRANSPONDER [ICAO]– A receiver/transmitter which will generate a reply signal upon proper interrogation; the interrogation and reply being on different frequencies.

TRANSPONDER CODES–
(See CODES.)

TRANSPONDER OBSERVED – Phraseology used to inform a VFR pilot the aircraft's assigned beacon code and position have been observed. Specifically, this term conveys to a VFR pilot the transponder reply has been observed and its position correlated for transit through the designated area.

TRIAL PLAN– A proposed amendment which utilizes automation to analyze and display potential conflicts along the predicted trajectory of the selected aircraft.

TRSA–
(See TERMINAL RADAR SERVICE AREA.)

TRUST–
(See THE RECREATIONAL UAS SAFETY TEST.)

TSAS–
(See TERMINAL SEQUENCING AND SPACING.)

TSD–
(See TRAFFIC SITUATION DISPLAY.)

TURBOJET AIRCRAFT– An aircraft having a jet engine in which the energy of the jet operates a turbine which in turn operates the air compressor.

TURBOPROP AIRCRAFT– An aircraft having a jet engine in which the energy of the jet operates a turbine which drives the propeller.

TURBULENCE– An atmospheric phenomenon that causes changes in aircraft altitude, attitude, and or airspeed with aircraft reaction depending on intensity. Pilots report turbulence intensity according to aircraft's reaction as follows:

a. Light – Causes slight, erratic changes in altitude and or attitude (pitch, roll, or yaw).

b. Moderate– Similar to Light but of greater intensity. Changes in altitude and or attitude occur but the aircraft remains in positive control at all times. It usually causes variations in indicated airspeed.

c. Severe– Causes large, abrupt changes in altitude and or attitude. It usually causes large variations in indicated airspeed. Aircraft may be momentarily out of control.

d. Extreme– The aircraft is violently tossed about and is practically impossible to control. It may cause structural damage.

(See CHOP.)

(Refer to AIM.)

TURN ANTICIPATION– (maneuver anticipation).

TVOR–

(See TERMINAL-VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION.)

TWO-WAY RADIO COMMUNICATIONS FAILURE–

(See LOST COMMUNICATIONS.)

U

UAM–
(See URBAN AIR MOBILITY.)

UAP–
(See UNIDENTIFIED ANOMALOUS PHENOMENA.)

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.)

UNIDENTIFIED ANOMALOUS PHENOMENA (UAP)– For aviation reporting purposes, a UAP may be airborne objects or other detected/observed objects that are not immediately identifiable, such as balloons, aircraft, or natural known phenomena, that demonstrate behaviors that are not readily understood by sensors or observers. A UAP may consist of one or more unidentified anomalous objects and may persist over an extended period of time. The full definition of UAP may be found on the All-Domain Anomaly Resolution Office (AARO) website at https://www.aaro.mil.

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.)

UPLINK– CPDLC message sent from ATC to the flight deck.

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.)

W

WA–
(See AIRMET.)
(See WEATHER ADVISORY.)

WAAS–
(See WIDE-AREA AUGMENTATION SYSTEM.)

WAKE TURBULENCE– A phenomenon that occurs when an aircraft develops lift and forms a pair of counter-rotating vortices.
(See AIRCRAFT CLASSES.)
(See AIRCRAFT WAKE CATEGORIES.)
(See VORTICES.)
(Refer to AIM.)

WARNING AREA–
(See SPECIAL USE AIRSPACE.)

WAYPOINT– A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.

WEATHER ADVISORY– In aviation weather forecast practice, an expression of hazardous weather conditions not predicted in the Aviation Surface Forecast, Aviation Cloud Forecast, or area forecast, as they affect the operation of air traffic and as prepared by the NWS.
(See AIRMET.)
(See GRAPHICAL AIRMEN'S METEOROLOGICAL INFORMATION.)
(See SIGMET.)

WEATHER RADAR PRECIPITATION INTENSITY– Existing radar systems cannot detect turbulence, however, there is a direct correlation between turbulence intensity and precipitation intensity. Controllers must issue all precipitation displayed on their user display systems. When precipitation intensity is not available, controllers will report intensity as UNKNOWN. When precipitation intensity levels are available, they will be described as follows:

a. LIGHT (< 26 dBZ)

b. MODERATE (26 to 40 dBZ)

c. HEAVY (> 40 to 50 dBZ)

d. EXTREME (> 50 dBZ)

WEATHER RECONNAISSANCE AREA (WRA)– A WRA is airspace with defined dimensions and published by Notice to Airmen, which is established to support weather reconnaissance/research flights. Air traffic control services are not provided within WRAs. Only participating weather reconnaissance/research aircraft from the 53rd Weather Reconnaissance Squadron and National Oceanic and Atmospheric Administration Aircraft Operations Center are permitted to operate within a WRA. A WRA may only be established in airspace within U.S. Flight Information Regions outside of U.S. territorial airspace.

WHEN ABLE–

a. In conjunction with ATC instructions, gives the pilot the latitude to delay compliance until a condition or event has been reconciled. Unlike "pilot discretion," when instructions are prefaced "when able," the pilot is expected to seek the first opportunity to comply.

b. In conjunction with a weather deviation clearance, requires the pilot to determine when he/she is clear of weather, then execute ATC instructions.

c. Once a maneuver has been initiated, the pilot is expected to continue until the specifications of the instructions have been met. "When able," should not be used when expeditious compliance is required.

WIDE-AREA AUGMENTATION SYSTEM (WAAS)– The WAAS is a satellite navigation system consisting of the equipment and software which augments the GPS Standard Positioning Service (SPS). The WAAS provides enhanced integrity, accuracy, availability, and continuity over and above GPS SPS. The differential correction function provides improved accuracy required for precision approach.

WIDE AREA MULTILATERATION (WAM)– A distributed surveillance technology which may utilize any combination of signals from Air Traffic Control Radar Beacon System (ATCRBS) (Modes A and C) and Mode S transponders, and ADS-B transmissions. Multiple geographically dispersed ground sensors measure the time-of-arrival of the transponder messages. Aircraft position is determined by joint processing of the time-difference-of-arrival (TDOA) measurements computed between a reference and the ground stations' measured time-of-arrival.

WILCO– I have received your message, understand it, and will comply with it.

WIND GRID DISPLAY– A display that presents the latest forecasted wind data overlaid on a map of the ARTCC area. Wind data is automatically entered and updated periodically by transmissions from the National Weather Service. Winds at specific altitudes, along with temperatures and air pressure can be viewed.

WIND SHEAR– A change in wind speed and/or wind direction in a short distance resulting in a tearing or shearing effect. It can exist in a horizontal or vertical direction and occasionally in both.

WIND SHEAR ESCAPE– An unplanned abortive maneuver initiated by the pilot in command (PIC) as a result of onboard cockpit systems. Wind shear escapes are characterized by maximum thrust climbs in the low altitude terminal environment until wind shear conditions are no longer detected.

WING TIP VORTICES–
(See VORTICES.)

WORDS TWICE–

a. As a request: "Communication is difficult. Please say every phrase twice."

b. As information: "Since communications are difficult, every phrase in this message will be spoken twice."

WS–
(See SIGMET.)
(See WEATHER ADVISORY.)

WST–
(See CONVECTIVE SIGMET.)
(See WEATHER ADVISORY.)

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BRIEFING GUIDE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Initiated By: AJR-0
Vice President, System Operations Services

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1. PARAGRAPH NUMBER AND TITLE: 4−6−2. REQUESTS FOR SPECIAL VFR CLEARANCE

2. BACKGROUND: In the previous change from FAA Order JO 7110.10V to FAA Order JO 7110.10W, the term “SURFACE AREA” was inadvertently changed to “AIRPORT” in the Phraseology under subparagraph 4−6−2d. This change corrects that error.

3. CHANGE:

OLD	NEW
4−6−2. REQUESTS FOR SPECIAL VFR CLEARANCE	**4−6−2. REQUESTS FOR SPECIAL VFR CLEARANCE**
Title through **c2** ***NOTE***	No Change
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.	No Change
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).*	***PHRASEOLOGY−*** *(Facility name) RADIO. REQUEST SPECIAL V−F−R CLEARANCE (aircraft identification) (direction) OF (location) AIRPORT (specified routing) TO ENTER/OUT OF/THROUGH (name)* ***SURFACE AREA*** *(specified routing).*
NOTE− *IFR aircraft normally have priority over SVFR aircraft.*	No Change