Section 1. Preflight

5-1-1. Preflight Preparation

a. Prior to every flight, pilots should gather all information vital to the nature of the flight, assess whether the flight would be safe, and then file a flight plan. Pilots can receive a regulatory compliant briefing without contacting Flight Service. Pilots are encouraged to use automated resources and review Advisory Circular AC 91-92, Pilot's Guide to a Preflight Briefing, for more information. Pilots who prefer to contact Flight Service are encouraged to conduct a self-brief prior to calling. Conducting a self-brief before contacting Flight Service provides familiarity of meteorological and aeronautical conditions applicable to the route of flight and promotes a better understanding of weather information. Pilots may access Flight Service through www.1800wxbrief.com or by calling 1-800-WX-BRIEF. Flight planning applications are also available for conducting a self-briefing and filing flight plans.

NOTE-

Alaska only: Pilots filing flight plans via "fast file" who desire to have their briefing recorded, should include a statement at the end of the recording as to the source of their weather briefing.

b. The information required by the FAA to process flight plans is obtained from FAA Form 7233-4, International Flight Plan. Only DoD users, and civilians who file stereo route flight plans, may use FAA Form 7233-1, Flight Plan.

NOTE-

FAA and DoD Flight Plan Forms are equivalent. Where the FAA specifies Form 7233-1, Flight Plan and FAA Form 7233-4, International Flight Plan, the DoD may substitute their Form DD 175, Military Flight Plan and Form DD-1801, DoD International Flight Plan as necessary. NAS automation systems process and convert data in the same manner, although for computer acceptance, input fields may be adjusted to follow FAA format.

c. FSSs are required to advise of pertinent NOTAMs if a *standard* briefing is requested, but if they are overlooked, do not hesitate to remind the specialist that you have not received NOTAM information. Additionally, FSS briefers do not provide FDC NOTAM information for special instrument approach procedures unless specifically asked. Pilots authorized by the FAA to use special instrument approach procedures must specifically request FDC NOTAM information for these procedures. Pilots who receive the information electronically will receive NOTAMs for special IAPs automatically.

NOTE-

Domestic Notices and International Notices are not provided during a briefing unless specifically requested by the pilot since the FSS specialist has no way of knowing whether the pilot has already checked the Federal NOTAM System (FNS) NOTAM Search website external links prior to calling. Airway

airport/facility (for example, flight advisories and restrictions, open duration special security instructions, and special flight rules areas) are briefed solely by pilot request. Remember to ask for these notices if you have not already reviewed this information, and to request all pertinent NOTAMs specific to your flight.

REFERENCE-

AIM, Para 5-1-3, Notice to Airmen (NOTAM) System.

d. Pilots are urged to use only the latest issue of aeronautical charts in planning and conducting flight operations. Aeronautical charts are revised and reissued on a regular scheduled basis to ensure that depicted data are current and reliable. In the conterminous U.S., Sectional Charts are updated every 56 days, IFR En Route Charts every 56 days, and amendments to civil IFR Approach Charts are accomplished on a 56-day cycle with a change notice volume issued on the 28-day midcycle. Charts that have been superseded by those of a more recent date may contain obsolete or incomplete flight information.

REFERENCE-

AIM, Para 9-1-5, General Description of Each Chart Series.

e. When requesting a preflight briefing, identify yourself as a pilot and provide the following:

1. Type of flight planned; e.g., VFR or IFR.

2. Aircraft's number or pilot's name.

3. Aircraft type.

4. Departure Airport.

5. Route of flight.

6. Destination.

7. Flight altitude(s).

8. ETD and ETE.

f. Prior to conducting a briefing, briefers are required to have the background information listed above so that they may tailor the briefing to the needs of the proposed flight. The objective is to communicate a “picture” of meteorological and aeronautical information necessary for the conduct of a safe and efficient flight. Briefers use all available weather and aeronautical information to summarize data applicable to the proposed flight. Pilots who have briefed themselves before calling Flight Service should advise the briefer what information has been obtained from other sources.

REFERENCE-

AIM, Para 7-1-5, Preflight Briefings, contains those items of a weather briefing that should be expected or requested.

g. FAA by 14 CFR part 93, Subpart K, has designated High Density Traffic Airports (HDTA) and has prescribed air traffic rules and requirements for operating aircraft (excluding helicopter operations) to and from these airports.

REFERENCE-

Chart Supplement, Special Notices Section.

AIM, Para 4-1-21, Airport Reservation Operations and Special Traffic Management Programs.

It is particularly important that pilots leave a complete itinerary with someone directly concerned and keep that person advised of the flight's progress. If serious doubt arises as to the safety of the flight, that person should first contact the FSS.

REFERENCE-

AIM, Para 5-1-11, Flights Outside the U.S. and U.S. Territories.

i. Pilots operating under provisions of 14 CFR part 135 on a domestic flight without having an FAA assigned 3-letter designator, must prefix the normal registration (N) number with the letter “T” on flight plan filing; for example, TN1234B.

REFERENCE-

AIM, Para 4-2-4, Aircraft Call Signs.

FAA Order JO 7110.65, Para 2-3-5, Aircraft Identity, Subpara a.

FAA Order JO 7110.10, Appendix B, FAA Form 7233-1, Flight Plan

5-1-2. Follow IFR Procedures Even When Operating VFR

a. To maintain IFR proficiency, pilots are urged to practice IFR procedures whenever possible, even when operating VFR. Some suggested practices include:

1. Obtain a complete preflight briefing and check NOTAMs. Prior to every flight, pilots should gather all information vital to the nature of the flight. Pilots can receive a regulatory compliant briefing without contacting Flight Service. Pilots are encouraged to use automated resources and review AC 91-92, Pilot's Guide to a Preflight Briefing, for more information. NOTAMs are available online from the Federal NOTAM System (FNS) NOTAM Search website (https://notams.aim.faa.gov/notamSearch/), private vendors, or on request from Flight Service.

2. File a flight plan. This is an excellent low cost insurance policy. The cost is the time it takes to fill it out. The insurance includes the knowledge that someone will be looking for you if you become overdue at your destination. Pilots can file flight plans either by using a website or by calling Flight Service. Flight planning applications are also available to file, activate, and close VFR flight plans.

3. Use current charts.

4. Use the navigation aids. Practice maintaining a good course-keep the needle centered.

5. Maintain a constant altitude which is appropriate for the direction of flight.

6. Estimate en route position times.

7. Make accurate and frequent position reports to the FSSs along your route of flight.

b. Simulated IFR flight is recommended (under the hood); however, pilots are cautioned to review and adhere to the requirements specified in 14 CFR section 91.109 before and during such flight.

c. When flying VFR at night, in addition to the altitude appropriate for the direction of flight, pilots should maintain an altitude which is at or above the minimum en route altitude as shown on charts. This is especially true in mountainous terrain, where there is usually very little ground reference. Do not depend on your eyes alone to avoid rising unlighted terrain, or even lighted obstructions such as TV towers.

5-1-3. Notice to Airmen (NOTAM) System

temporary, or information to be published on aeronautical charts at a later date, or information from another operational publication. The NOTAM is cancelled when the information in the NOTAM is published on the chart or when the temporary condition is returned to normal status. NOTAMs may be disseminated up to 7 days before the start of activity. Pilots can access NOTAM information online via NOTAM Search at: https://notams.aim.faa.gov/notamSearch/ or from an FSS.

b. Preflight. 14 CFR § 91.103, Preflight Action directs pilots to become familiar with all available information concerning a planned flight prior to departure, including NOTAMs. Pilots may change their flight plan based on available information. Current NOTAM information may affect:

1. Aerodromes.
2. Runways, taxiways, and ramp restrictions.
3. Obstructions.
4. Communications.
5. Airspace.
6. Status of navigational aids or radar service availability.
7. Other information essential to planned en route, terminal, or landing operations.

c. ARTCC NOTAMs. Pilots should also review NOTAMs for the ARTCC area (for example, Washington Center (ZDC), Cleveland Center (ZOB), etc.) in which the flight will be operating. You can find the 3 letter code for each ARTCC on the FAA's NOTAM webpage. These NOTAMs may affect the planned flight. Some of the operations include Central Altitude Reservation Function (CARF), Special Use Airspace (SUA), Temporary Flight Restrictions (TFR), Global Positioning System (GPS), Flight Data Center (FDC) changes to routes, wind turbine, and Unmanned Aircraft System (UAS).

NOTE-

NOTAM information is transmitted using ICAO contractions to reduce transmission time. See TBL 5-1-2 for a listing of the most commonly used contractions, or go online to the following URL: https://www.notams.faa.gov/downloads/contractions.pdf. For a complete listing of approved NOTAM Contractions, see FAA Order JO 7340.2, Contractions.

d. Destination Update. Pilots should also contact ATC or FSS while en route to obtain updated airfield information for their destination. This is particularly important when flying to the airports without an operating control tower. Snow removal, fire and rescue activities, construction, and wildlife encroachment, may pose hazards to pilots. This information may not be available to pilots prior to arrival/departure.

e. NAVAID NOTAMs. Pilots should check NOTAMs to ensure NAVAIDs required for the flight are in service. A NOTAM is published when a NAVAID is out of service or Unserviceable (U/S). Although a NAVAID is deemed U/S and planned for removal from service, it may be a long time before that NAVAID is officially decommissioned and removed from charts. A NOTAM is the primary method of alerting pilots to its unavailability. Pilots using VFR charts can also review the Aeronautical Information Services' (AIS) website concerning Safety Alerts, Charting Notices, and Digital Product Notices at https://www.faa.gov/air_traffic/flight_info/aeronav/safety_alerts/ for additional chart information.

may find information on GPS satellite outages, GPS testing, and GPS anomalies by specifically searching for GPS NOTAMS prior to flight.

1. The NOTAM system uses the terms UNRELIABLE (UNREL), MAY NOT BE AVAILABLE (AVBL), and NOT AVAILABLE (AVBL) when describing the status of GPS. UNREL indicates 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. Aircraft should have additional navigation equipment for their intended route.

NOTE-

Unless associated with a known testing NOTAM, pilots should report GPS anomalies, including degraded operation and/or loss of service, as soon as possible via radio or telephone, and via the GPS Anomaly Reporting Form. (See 1-1-13.)

2. GPS operations may also be NOTAMed for testing. This is indicated in the NOTAM language with the name of the test in parenthesis. When GPS testing NOTAMS are published and testing is actually occurring, ATC will advise pilots requesting or cleared for a GPS or RNAV (GPS) approach, that GPS may not be available and request the pilot's intentions. TBL 5-1-1 lists an example of a GPS testing NOTAM.

g. NOTAM Classification. NOTAM information is classified as Domestic NOTAMs (NOTAM D), Flight Data Center (FDC) NOTAMs, International NOTAMs, or Military NOTAMs.

1. NOTAM (D) information is disseminated for all navigational facilities that are part of the National Airspace System (NAS), all public use aerodromes, seaplane bases, and heliports listed in the Chart Supplement. NOTAM (D) information includes taxiway closures, personnel and equipment near or crossing runways, and airport lighting aids that do not affect instrument approach criteria (i.e., VGSI). All NOTAM Ds must have one of the keywords listed in TBL 5-1-1, as the first part of the text after the location identifier. These keywords categorize NOTAM Ds by subject, for example, APRON (ramp), RWY (runway), SVC (Services), etc. There are several types of NOTAM Ds:

(a) Aerodrome activity and conditions, to include field conditions.

(b) Airspace to include CARF, SUA, and general airspace activity like UAS or pyrotechnics.

(c) Visual and radio navigational aids.

(d) Communication and services.

(e) Pointer NOTAMs. NOTAMs issued to point to additional aeronautical information. When pointing to another NOTAM, the keyword in the pointer NOTAM must match the keyword in the original NOTAM. Pointer NOTAMs should be issued for, but are not limited to, TFRs, Airshows, Temporary SUA, major NAS system interruptions, etc.

2. FDC NOTAMs are issued when it is necessary to disseminate regulatory information. FDC NOTAMs include:

(b) Temporary Flight Restrictions (TFR) restrict entrance to a certain airspace at a certain time, however, some TFRs provide relief if ATC permission is given to enter the area when requested. Online preflight resources for TFRs provide graphics and plain language interpretations.

(c) High barometric pressure warning.

(d) Laser light activity.

(e) ADS-B, TIS-B, and FIS-B service availability.

(f) Satellite-based systems such as WAAS or GPS.

(g) Special Notices.

3. International NOTAMs are published in ICAO format per Annex 15 and distributed to multiple countries.

(a) International NOTAMs issued by the U.S. NOTAM Office use Series A followed by 4 sequential numbers, a slant "/" and a 2-digit number representing the year the NOTAM was issued. International NOTAMs basically duplicate data found in a U.S. Domestic NOTAM.

(b) Not every topic of a U.S. Domestic NOTAM is issued as an International NOTAM by the U.S. The U.S. International NOTAM will be linked to the appropriate U.S. Domestic NOTAM when possible.

(c) International NOTAMs received by the FAA from other countries are stored in the U.S. NOTAM System.

(d) The International NOTAM format includes a "Q" Line that can be easily read/parsed by a computer and allows the NOTAM to be displayed digitally.

(1) Field A: ICAO location identifier or FIR affected by the NOTAM.

(2) Field B: Start of Validity.

(3) Field C: End of Validity (both in [Year][Month][Day][Hour][Minute] format).

(4) Field D: (when present) Schedule.

(5) Field E: Full NOTAM description.

(6) Field F: (when present) Lowest altitude, or "SFC."

(7) Field G: (when present) Highest altitude, or "UNL."

(e) For more on International format, please see Annex 15.

4. Military NOTAMs are NOTAMs originated by the U.S. Air Force, Army, Marine, or Navy, and pertaining to military or joint-use navigational aids/airports that are part of the NAS. Military NOTAMs are published in the International NOTAM format and should be reviewed by users of a military or joint-use facility.

h. Security NOTAMS:

1. U.S. Domestic Security NOTAMS are FDC NOTAMS that inform pilots of certain U.S. security activities or requirements, such as Special Security Instructions for aircraft operations to, from,

System (FNS) NOTAM Search website under the location designator KZZZ.

2. United States International Flight Prohibitions, Potential Hostile Situations, and Foreign Notices are issued by the FAA and are found on the Federal NOTAM System (FNS) NOTAM Search website under the location designator KICZ.

TBL 5-1-1

NOTAM Keywords

Keyword	Definition
RWY *Example*	**Runway** !BNA BNA RWY 18/36 CLSD YYMMDDHHMM-YYMMDDHHMM
TWY *Example*	**Taxiway** !BTV BTV TWY C EDGE LGT OBSC YYMMDDHHMM-YYMMDDHHMM
APRON *Example*	**Apron/Ramp** !BNA BNA APRON NORTH APN E 100FT CLSD YYMMDDHHMM-YYMMDDHHMM
AD *Example*	**Aerodrome** !BET BET AD AP ELK NEAR MOVEMENT AREAS YYMMDDHHMM-YYMMDDHHMM
OBST *Example*	**Obstruction** !SJT SJT OBST MOORED BALLOON WI AN AREA DEFINED AS 1NM RADIUS OF SJT 2430FT (510FT AGL) FLAGGED YYMMDDHHMM-YYMMDDHHMM
NAV *Example*	**Navigation Aids** !SHV SHV NAV ILS RWY 32 110.3 COMMISSIONED YYMMDDHHMM-PERM
COM *Example*	**Communications** !INW INW COM REMOTE COM OUTLET 122.6 U/S YYMMDDHHMM-YYMMDDHHMM EST (Note* EST will auto cancel)
SVC *Example*	**Services** !ROA ROA SVC TWR COMMISSIONED YYMMDDHHMM-PERM
AIRSPACE *Example*	**Airspace** !MHV MHV AIRSPACE AEROBATIC ACFT WI AN AREA DEFINED AS 4.3NM RADIUS OF MHV 5500FT-10500FT AVOIDANCE ADZ CTC JOSHUA APP DLY YYMMDDHHMM-YYMMDDHHMM
ODP *Example*	**Obstacle Departure Procedure** !FDC 2/9700 DIK ODP DICKINSON - THEODORE ROOSEVELT RGNL, DICKINSON, ND. TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 1... DEPARTURE PROCEDURE: RWY 25, CLIMB HEADING 250 TO 3500 BEFORE TURNING LEFT. ALL OTHER DATA REMAINS AS PUBLISHED. THIS IS TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, AMDT 1A. YYMMDDHHMM-PERM
SID *Example*	**Standard Instrument Departure** !FDC x/xxxx DFW SID DALLAS/FORT WORTH INTL, DALLAS, TX. PODDE THREE DEPARTURE... CHANGE NOTES TO READ: RWYS 17C/R, 18L/R: DO

STAR *Example*	**Standard Terminal Arrival** !FDC x/xxxx DCA STAR RONALD REAGAN WASHINGTON NATIONAL, WASHINGTON, DC. WZRRD TWO ARRIVAL... SHAAR TRANSITION: ROUTE FROM DRUZZ INT TO WZRRD INT NOT AUTHORIZED. AFTER DRUZZ INT EXPECT RADAR VECTORS TO AML VORTAC YYMMDDHHMM-YYMMDDHHMM
CHART *Example*	**Chart** !FDC 2/9997 DAL IAP DALLAS LOVE FIELD, DALLAS, TX. ILS OR LOC RWY 31R, AMDT 5... CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 31L. MISSED APPROACH: CLIMB TO 1000 THEN CLIMBING RIGHT TURN TO 5000 ON HEADING 330 AND CVE R-046 TO FINGR INT/CVE 36.4 DME AND HOLD. CHART LOC RWY 31L. THIS IS ILS OR LOC RWY 31R, AMDT 5A. YYMMDDHHMM-PERM
DATA *Example*	**Data** !FDC 2/9700 DIK ODP DICKINSON - THEODORE ROOSEVELT RGNL, DICKINSON, ND. TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 1... DEPARTURE PROCEDURE: RWY 25, CLIMB HEADING 250 TO 3500 BEFORE TURNING LEFT. ALL OTHER DATA REMAINS AS PUBLISHED. THIS IS TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, AMDT 1A. YYMMDDHHMM-PERM
IAP *Example*	**Instrument Approach Procedure** !FDC 2/9997 DAL IAP DALLAS LOVE FIELD, DALLAS, TX. ILS OR LOC RWY 31R, AMDT 5... CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 31L. MISSED APPROACH: CLIMB TO 1000 THEN CLIMBING RIGHT TURN TO 5000 ON HEADING 330 AND CVE R-046 TO FINGR INT/CVE 36.4 DME AND HOLD. CHART LOC RWY 31L. THIS IS ILS OR LOC RWY 31R, AMDT 5A. YYMMDDHHMM-PERM
VFP *Example*	**Visual Flight Procedures** !FDC X/XXXX JFK VFP JOHN F KENNEDY INTL, NEW YORK, NY. PARKWAY VISUAL RWY 13L/R, ORIG...WEATHER MINIMUMS 3000 FOOT CEILING AND 3 MILES VISIBILITY. YYMMDDHHMM-YYMMDDHHMM
ROUTE *Example*	**Route** !FDC x/xxxx ZFW ROUTE ZFW ZKC. V140 SAYRE (SYO) VORTAC, OK TO TULSA (TUL) VORTAC, OK MEA 4300. YYMMDDHHMM-YYMMDDHHMM EST
SPECIAL *Example*	**Special** !FDC x/xxxx JNU SPECIAL JUNEAU INTERNATIONAL, JUNEAU, AK. LDA-2 RWY 8 AMDT 9 PROCEDURE TURN NA. YYMMDDHHMM-YYMMDDHHMM
SECURITY *Example*	**Security** !FDC x/xxxx FDC ...SPECIAL NOTICE... THIS IS A RESTATEMENT OF A PREVIOUSLY ISSUED ADVISORY NOTICE. IN THE INTEREST OF NATIONAL SECURITY AND TO THE EXTENT PRACTICABLE, PILOTS ARE STRONGLY ADVISED TO AVOID THE AIRSPACE ABOVE, OR IN PROXIMITY TO SUCH SITES AS POWER PLANTS (NUCLEAR, HYDRO-ELECTRIC, OR COAL), DAMS, REFINERIES, INDUSTRIAL COMPLEXES, MILITARY

	FACILITIES.
GPS TESTING *Example*	**Global Positioning System Testing** !GPS 01/028 ZAB NAV GPS (YPG_AZ GPS 21-06)(INCLUDING WAAS, GBAS, AND ADS-B) MAYNOT BE AVBL WI A276NM RADIUS CENTERED AT 332347N1142221W (BLH108023) FL400-UNL, 232NM RADIUS AT FL250, 164NM RADIUS AT 100000FT 160NM RADIUS AT 4000FT AGL 126NM RADIUS AT 50FT AGL DLY 1830-2230 2101281830-2101292230
PRN (GPS) *Example*	Pseudo-random noise code used to differentiate GPS satellites. This code allows any receiver to identify exactly which satellite(s) it is receiving. !GPS GPS NAV PRN 16 U/S 2109231600-2109242300EST

TBL 5-1-2

Contractions Commonly Found in NOTAMs

	A
ABN	Aerodrome Beacon
ACFT	Aircraft
ACT	Active
ADJ	Adjacent
AGL	Above Ground Level
ALS	Approach Light System
AP	Airport
APN	Apron
APP	Approach control office *or* approach control *or* approach control service
ARST	Arresting *(specify (part of) aircraft arresting equipment)*
ASDA	Accelerate Stop Distance Available
ASPH	Asphalt
AUTH	Authorized *or* authorization
AVBL	Available *or* availability
AVGAS	Aviation gasoline
AWOS	Automatic Weather Observing System
AZM	Azimuth
	B
BA	Braking action
BCN	Beacon *(aeronautical ground light)*
BCST	Broadcast
BDRY	Boundary
BLDG	Building
BLW	Below
BTN	Between

CD	Clearance delivery
CIV	Civil
CL	Centerline
CLSD	Close *or* closed *or* closing
COM	Communication
CONC	Concrete
COND	Condition
CONS	Continuous
CONST	Construction *or* constructed
CPDLC	Controller Pilot Data Link Communications
CTC	Contact
CUST	Customs
	D
DA	Decision altitude
DEG	Degrees
DEP	Depart *or* Departure
DER	Departure end of the runway
DH	Decision Height
DIST	Distance
DLY	Daily
DP	Dew Point Temperature
DPT	Depth
DTHR	Displaced Runway Threshold
	E
E	East *or* eastern longitude
EB	Eastbound
EMERG	Emergency
ENE	East-northeast
EQPT	Equipment
ESE	East-southeast
EST	Estimate *or* estimated *or* estimation *(message type designator)*
EXC	Except
	F
FL	Flight level
FREQ	Frequency
FRI	Friday
FSS	Flight Service Station
FST	First
FT	Feet *(dimensional unit)*
	G
G	Green
GA	General aviation
GLD	Glider
GND	Ground

	H
HEL	Helicopter
HGT	Height *or* height above
HLDG	Holding
HLP	Heliport
HVY	Heavy
	I
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IM	Inner Marker
INOP	Inoperative
INT	Intersection
	K
KT	Knots
	L
L	Left *(preceded by runway designator number to identify a parallel runway)*
LAT	Latitude
LDA	Landing Distance Available
LDG	Landing
LEN	Length
LGT	Light *or* lighting
LGTD	Lighted
LOC	Localizer
LONG	Longitude
	M
MAINT	Maintenance
MBST	Microburst
MIL	Military
MIN	Minutes
MNT	Monitor *or* monitoring *or* monitored
MON	Monday
MOV	Move *or* moving *or* movement
	N
N	North
NAVAID	Navigational aid
NB	Northbound
NDB	Nondirectional Radio Beacon
NE	Northeast
NEB	Northeast bound
NM	Nautical Mile/s
NNE	North-northeast
NNW	North-northwest
NOV	November
NW	Northwest

OBSC	Obscure *or* obscured *or* obscuring
OBST	Obstacle
OPN	Open *or* opening *or* opened
OPS	Operations
	P
PAPI	Precision Approach Path Indicator
PARL	Parallel
PAX	Passenger/s
PCL	Pilot Controlled Lighting
PCT	Percent
PERM	Permanent
PJE	Parachute Jumping Activities
PLA	Practice Low Approach
PPR	Prior Permission Required
PRN	Pseudo-random Navigation
PT	Procedure Turn
	R
R	Red
R	Right *(preceded by runway designator number to identify a parallel runway)*
RAI	Runway Alignment Indicator
RCL	Runway Centerline
RCLL	Runway Centerline Light
REDL	Runway Edge Light
RLLS	Runway Lead-in Light System
RMK	Remark
RTS	Return to Service
RTZL	Runway Touchdown Zone Light(s)
RVR	Runway Visual Range
RWY	Runway
RX	Receive/Receiver
	S
S	South *or* southern latitude
SA	Sand
SAT	Saturday
SB	Southbound
SE	Southeast
SEC	Seconds
SFC	Surface
SN	Snow
SR	Sunrise
SS	Sunset
SSR	Secondary surveillance radar
SSW	South-southwest
STD	Standard

SWB	Southwest bound
	T
TAR	Terminal area surveillance radar
TAX	Taxing *or* taxiing
TDZ	Touchdown Zone
TEMPO	Temporary *or* temporarily
TFC	Traffic
THR	Threshold
THU	Thursday
TKOF	Takeoff
TODA	Take-off Distance Available
TORA	Take-off Run Available
TRG	Training
TUE	Tuesday
TWR	Aerodrome Control Tower
TWY	Taxiway
TX	Taxilane
	U
U/S	Unserviceable
UAS	Unmanned Aircraft System
UNL	Unlimited
UNREL	Unreliable
	V
VIS	Visibility
VOR	VHF Omni-Directional Radio Range
VORTAC	VOR and TACAN (collocated)
VOT	VOR Test Facility
	W
W	West *or* western longitude
WB	Westbound
WDI	Wind Direction Indicator
WED	Wednesday
WI	Within
WID	Width *or* wide
WIP	Work in progress
WNW	West-northwest
WS	Wind shear
WSW	West-southwest

5-1-4. Operational Information System (OIS)

a. The FAA's Air Traffic Control System Command Center (ATCSCC) maintains a website with near real-time National Airspace System (NAS) status information. NAS operators are encouraged to access the website at http://www.fly.faa.gov prior to filing their flight plan.

electronically by the ATCSCC that contains information pertinent to the NAS.

1. Advisories are normally issued for the following items:

(a) Ground Stops.

(b) Ground Delay Programs.

(c) Route Information.

(d) Plan of Operations.

(e) Facility Outages and Scheduled Facility Outages.

(f) Volcanic Ash Activity Bulletins.

(g) Special Traffic Management Programs.

2. This list is not all-inclusive. Any time there is information that may be beneficial to a large number of people, an advisory may be sent. Additionally, there may be times when an advisory is not sent due to workload or the short length of time of the activity.

3. Route information is available on the website and in specific advisories. Some route information, subject to the 56-day publishing cycle, is located on the “OIS” under “Products,” Route Management Tool (RMT), and “What's New” Playbook. The RMT and Playbook contain routings for use by Air Traffic and NAS operators when they are coordinated “real-time” and are then published in an ATCSCC advisory.

4. Route advisories are identified by the word “Route” in the header; the associated action is required (RQD), recommended (RMD), planned (PLN), or for your information (FYI). Operators are expected to file flight plans consistent with the Route RQD advisories.

5. Electronic System Impact Reports are on the intranet at http://www.atcscc.faa.gov/ois/ under “System Impact Reports." This page lists scheduled outages/events/projects that significantly impact the NAS; for example, runway closures, air shows, and construction projects. Information includes anticipated delays and traffic management initiatives (TMI) that may be implemented.

5-1-5. Flight Plan - VFR Flights

(See Appendix 4, FAA Form 7233-4 - International Flight Plan)

a. The requirements for the filing and activation of VFR flight plans can vary depending in which airspace the flight is operating. Pilots are responsible for activating flight plans with a Flight Service Station. Control tower personnel do not automatically activate VFR flight plans.

1. Within the continental U.S., a VFR flight plan is not normally required.

2. VFR flights (except for DoD and law enforcement flights) into an Air Defense Identification Zone (ADIZ) are required to file DVFR flight plans.

NOTE-

Detailed ADIZ procedures are found in Section 6, National Security and Interception Procedures, of this chapter. (See 14 CFR part 99).

3. Flights within the Washington, DC Special Flight Rules Area have additional requirements that must be met. Visit http://www.faasafety.gov for the required Special Awareness Training that must

f. VFR flight to an international destination requires a filed and activated flight plan.

NOTE-

ICAO flight plan guidance is published in ICAO Document 4444 PANS-ATM Appendix 2.

b. It is strongly recommended that a VFR flight plan be filed with a Flight Service Station or equivalent flight plan filing service. When filing, pilots must use FAA Form 7233-4, International Flight Plan or DD Form 1801. Only DoD users, and civilians who file stereo route flight plans, may use FAA Form 7233-1, Flight Plan. Pilots may take advantage of advances in technology by filing their flight plans using any available electronic means. Activating the flight plan will ensure that you receive VFR Search and Rescue services.

c. When a stopover flight is anticipated, it is recommended that a separate flight plan be filed for each leg of the flight.

d. Pilots are encouraged to activate their VFR flight plans with Flight Service by the most expeditious means possible. This may be via radio or other electronic means. VFR flight plan proposals are normally retained for two hours following the proposed time of departure.

e. Pilots may also activate a VFR flight plan by using an assumed departure time. This assumed departure time will cause the flight plan to become active at the designated time. This may negate the need for communication with a flight service station or flight plan filing service upon departure. It is the pilot's responsibility to revise his actual departure time, time en route, or ETA with flight service.

NOTE-

Pilots are strongly advised to remain mindful when using an assumed departure time. If not updated, search and rescue activities will be based on the assumed departure time.

f. U.S. air traffic control towers do not routinely activate VFR flight plans. Foreign pilots especially must be mindful of the need to communicate directly with a flight service station, or use an assumed departure time procedure clearly communicated with the flight plan filing service.

g. Although position reports are not required for VFR flight plans, periodic reports to FSSs along the route are good practice. Such contacts permit significant information to be passed to the transiting aircraft and also serve to check the progress of the flight should it be necessary for any reason to locate the aircraft.

h. Pilots flying VFR should fly an appropriate cruising altitude for their direction of flight.

i. When filing a VFR Flight plan, indicate the appropriate aircraft equipment capability as prescribed for an IFR flight plan.

REFERENCE-

AIM, Para 5-1-6, IFR Flights.

j. ATC radar history data can be useful in finding a downed or missing aircraft; therefore, surveillance equipment should be listed in Item 18. Pilots using commercial GPS tracking services are encouraged to note the specific service in Item 19 N/ (survival equip remarks) of FAA Form 7233-4 or DD Form 1801.

5-1-6. Flight Plan - IFR Flights

(See Appendix 4, FAA Form 7233-4 - International Flight Plan)

1. Use of FAA Form 7233-4 or DD Form 1801 is mandatory for:

(a) Assignment of RNAV SIDs and STARs or other PBN routing,

(b) All civilian IFR flights that will depart U.S. domestic airspace, and

(c) Domestic IFR flights except military/DoD and civilians who file stereo route flight plans.

(d) All military/DoD IFR flights that will depart U.S. controlled airspace.

2. Military/DoD flights using FAA Form 7233-1, or DD Form 175, may not be eligible for assignment of RNAV SIDs or STARs. Military flights desiring assignment of these procedures should file using FAA Form 7233-4 or DD 1801, as described in this section.

3. When filing an IFR flight plan using FAA Form 7233-4 or DD Form 1801, it is recommended that filers include all operable navigation, communication, and surveillance equipment capabilities by adding appropriate equipment qualifiers as shown in Appendix 4, FAA Form 7233-4, International Flight Plan.

4. ATC issues clearances based on aircraft capabilities filed in Items 10 and 18 of FAA Form 7233-4 or DD 1801. Operators should file all capabilities for which the aircraft and crew is certified, capable, and authorized. PBN/capability must be filed in Item 18, Other Information. When filing a capability, ATC expects filers to use that capability; for example, answer a SATVOICE call from ATC if code M1 or M3 is filed in Item 10a.

5. Prior to departure from within, or prior to entering controlled airspace, a pilot must submit a complete flight plan and receive an air traffic clearance, if weather conditions are below VFR minimums. IFR flight plans may be submitted to an FSS or flight plan filing service.

6. Pilots should file IFR flight plans at least 30 minutes prior to estimated time of departure to preclude possible delay in receiving a departure clearance from ATC.

7. In order to provide FAA traffic management units' strategic route planning capabilities, nonscheduled operators conducting IFR operations above FL 230 are requested to voluntarily file IFR flight plans at least 4 hours prior to estimated time of departure (ETD).

8. To minimize your delay in entering Class B, Class C, Class D, and Class E surface areas at destination when IFR weather conditions exist or are forecast at that airport, an IFR flight plan should be filed before departure. Otherwise, a 30-minute delay is not unusual in receiving an ATC clearance because of time spent in processing flight plan data.

9. Traffic saturation frequently prevents control personnel from accepting flight plans by radio. In such cases, the pilot is advised to contact a flight plan filing service for the purpose of filing the flight plan.

10. When requesting an IFR clearance, it is highly recommended that the departure airport be identified by stating the city name and state and/or the airport location identifier in order to clarify to ATC the exact location of the intended airport of departure.

11. Multiple versions of flight plans for the same flight may lead to unsafe conditions and errors within the air traffic system. Pilots must not file more than one flight plan for the same flight

12. When a pilot is aware that the possibility for multiple flight plans on the same aircraft may exist, ensuring receipt of a full route clearance will help mitigate chances of error.

REFERENCE-

AIM, Para 5-1-12, Change in Flight Plan.

AIM, Para 5-1-13, Change in Proposed Departure Time.

b. Airways and Jet Routes Depiction on Flight Plan

1. It is vitally important that the route of flight be accurately and completely described in the flight plan. To simplify definition of the proposed route, and to facilitate ATC, pilots are requested to file via airways or jet routes established for use at the altitude or flight level planned.

2. If flight is to be conducted via designated airways or jet routes, describe the route by indicating the type and number designators of the airway(s) or jet route(s) requested. If more than one airway or jet route is to be used, clearly indicate points of transition. If the transition is made at an unnamed intersection, show the next succeeding NAVAID or named intersection on the intended route and the complete route from that point. Reporting points may be identified by using authorized name/code as depicted on appropriate aeronautical charts. The following two examples illustrate the need to specify the transition point when two routes share more than one transition fix.

EXAMPLE-

1. *ALB J37 BUMPY J14 BHM Spelled out:*

from Albany, New York, via Jet Route 37 transitioning to Jet Route 14 at BUMPY intersection, thence via Jet Route 14 to Birmingham, Alabama.

2. *ALB J37 ENO J14 BHM Spelled out:*

from Albany, New York, via Jet Route 37 transitioning to Jet Route 14 at Smyrna VORTAC (ENO) thence via Jet Route 14 to Birmingham, Alabama.

3. The route of flight may also be described by naming the reporting points or NAVAIDs over which the flight will pass, provided the points named are established for use at the altitude or flight level planned.

EXAMPLE-

BWI V44 SWANN V433 DQO Spelled out: from Baltimore-Washington International, via Victor 44 to Swann intersection, transitioning to Victor 433 at Swann, thence via Victor 433 to Dupont.

4. When the route of flight is defined by named reporting points, whether alone or in combination with airways or jet routes, and the navigational aids (VOR, VORTAC, TACAN, NDB) to be used for the flight are a combination of different types of aids, enough information should be included to clearly indicate the route requested.

EXAMPLE-

International via Jet Route 5 Lakeview, Jet Route 3 Spokane, direct Cranbrook, British Columbia VOR/DME, Flight Level 330 Jet Route 500 to Langruth, Manitoba VORTAC, Jet Route 515 to Winnipeg, Manitoba.

5. When filing IFR, it is to the pilot's advantage to file a preferred route.

REFERENCE-

Preferred IFR Routes are described and tabulated in the Chart Supplement.

Additionally available at U.S.

http://www.fly.faa.gov/Products/Coded_Departure_Routes/NFDC_Preferred_Routes_Database/nfdc_preferred_routes_database.html.

6. ATC may issue a SID or a STAR, as appropriate.

REFERENCE-

AIM, Para 5-2-9, Instrument Departure Procedures (DP) - Obstacle Departure Procedures (ODP) and Standard Instrument Departures (SID), and Diverse Vector Areas (DVA).

AIM, Para 5-4-1, Standard Terminal Arrival (STAR) Procedures.

NOTE-

Pilots not desiring an RNAV SID or RNAV STAR should enter in Item #18, PBN code: NAV/RNV A0 and/or D0.

c. Direct Flights

1. All or any portions of the route which will not be flown on the radials or courses of established airways or routes, such as direct route flights, must be defined by indicating the radio fixes over which the flight will pass. Fixes selected to define the route must be those over which the position of the aircraft can be accurately determined. Such fixes automatically become compulsory reporting points for the flight, unless advised otherwise by ATC. Only those navigational aids established for use in a particular structure; i.e., in the low or high structures, may be used to define the en route phase of a direct flight within that altitude structure.

2. The azimuth feature of VOR aids and the azimuth and distance (DME) features of VORTAC and TACAN aids are assigned certain frequency protected areas of airspace which are intended for application to established airway and route use, and to provide guidance for planning flights outside of established airways or routes. These areas of airspace are expressed in terms of cylindrical service volumes of specified dimensions called “class limits” or “categories.”

REFERENCE-

AIM, Para 1-1-8, Navigational Aid (NAVAID) Service Volumes.

3. An operational service volume has been established for each class in which adequate signal coverage and frequency protection can be assured. To facilitate use of VOR, VORTAC, or TACAN aids, consistent with their operational service volume limits, pilot use of such aids for defining a direct route of flight in controlled airspace should not exceed the following:

(a) Operations above FL 450 - Use aids not more than 200 NM apart. These aids are depicted on en route high altitude charts.

than 200 NM apart. These aids are depicted on en route high altitude charts.

(c) Operation off established airways below 18,000 feet MSL - Use aids not more than 80 NM apart. These aids are depicted on en route low altitude charts.

(d) Operation off established airways between 14,500 feet MSL and 17,999 feet MSL in the conterminous U.S. - (H) facilities not more than 200 NM apart may be used.

4. Increasing use of self-contained airborne navigational systems which do not rely on the VOR/VORTAC/TACAN system has resulted in pilot requests for direct routes which exceed NAVAID service volume limits.

5. At times, ATC will initiate a direct route in a surveillance environment which exceeds NAVAID service volume limits. Pilots must adhere to the altitude specified in the clearance.

6. Appropriate airway or jet route numbers may also be included to describe portions of the route to be flown.

EXAMPLE-

MDW V262 BDF V10 BRL STJ SLN GCK Spelled out: from Chicago Midway Airport via Victor 262 to Bradford, Victor 10 to Burlington, Iowa, direct St. Joseph, Missouri, direct Salina, Kansas, direct Garden City, Kansas.

NOTE-

When route of flight is described by radio fixes, the pilot will be expected to fly a direct course between the points named.

7. Pilots are reminded that they are responsible for adhering to obstruction clearance requirements on those segments of direct routes that are outside of controlled airspace and ATC surveillance capability. The MEAs and other altitudes shown on IFR en route charts pertain to those route segments within controlled airspace, and those altitudes may not meet obstruction clearance criteria when operating off those routes.

NOTE-

Refer to 14 CFR 91.177 for pilot responsibility when flying random point to point routes.

d. Area Navigation (RNAV)/Global Navigation Satellite System (GNSS)

1. When not being radar monitored, GNSS-equipped RNAV aircraft on random RNAV routes must be cleared via or reported to be established on a point-to-point route.

(a) The points must be published NAVAIDs, waypoints, fixes or airports recallable from the aircraft's navigation database. The points must be displayed on controller video maps or depicted on the controller chart displayed at the control position. When applying non-radar separation the maximum distance between points must not exceed 500 miles.

(b) ATC will protect 4 miles either side of the route centerline.

(c) Assigned altitudes must be at or above the highest MIA along the projected route segment being flown, including the protected airspace of that route segment.

throughout the National Airspace System in accordance with the following procedures:

(a) File airport-to-airport flight plans.

(b) File the appropriate indication of RNAV and/or RNP capability in the flight plan.

(c) Plan the random route portion of the flight plan to begin and end over appropriate arrival and departure transition fixes or appropriate navigation aids for the altitude stratum within which the flight will be conducted. The use of normal preferred departure and arrival routes (DP/STAR), where established, is recommended.

(d) File route structure transitions to and from the random route portion of the flight.

(e) Define the random route by waypoints. File route description waypoints by using degree distance fixes based on navigational aids which are appropriate for the altitude stratum.

(f) File a minimum of one route description waypoint for each ARTCC through whose area the random route will be flown. These waypoints must be located within 200 NM of the preceding center's boundary.

(g) File an additional route description waypoint for each turn point in the route.

(h) Plan additional route description waypoints as required to ensure accurate navigation via the filed route of flight. Navigation is the pilot's responsibility unless ATC assistance is requested.

(i) Plan the route of flight so as to avoid prohibited and restricted airspace by 3 NM unless permission has been obtained to operate in that airspace and the appropriate ATC facilities are advised.

NOTE-

To be approved for use in the National Airspace System, RNAV equipment must meet system availability, accuracy, and airworthiness standards. For additional information and guidance on RNAV equipment requirements see Advisory Circular (AC) 20-138 Airworthiness Approval of Positioning and Navigation Systems and AC 90-100 U.S. Terminal and En Route Area Navigation (RNAV) Operations.

3. Pilots of aircraft equipped with latitude/longitude coordinate navigation capability, independent of VOR/TACAN references, may file for random RNAV using the following procedures:

(a) File airport-to-airport flight plans prior to departure.

(b) File the appropriate RNAV capability certification suffix in the flight plan.

(c) Plan the random route portion of the flight to begin and end over published departure/arrival transition fixes or appropriate navigation aids for airports without published transition procedures. The use of preferred departure and arrival routes, such as DP and STAR, where established, is recommended.

(d) Plan the route of flight so as to avoid prohibited and restricted airspace by 3 NM unless permission has been obtained to operate in that airspace and the appropriate ATC facility

(c) Define the route of flight after the departure fix, including each intermediate fix (turnpoint) and the arrival fix for the destination airport in terms of latitude/longitude coordinates plotted to the nearest minute or in terms of Navigation Reference System (NRS) waypoints. For latitude/longitude filing the arrival fix must be identified by both the latitude/longitude coordinates and a fix identifier.

EXAMPLE-

MIA[1] SRQ[2] 3407/10615[3] 3407/11546 TNP[4] LAX[5]

1 Departure airport.

2 Departure fix.

3 Intermediate fix (turning point).

4 Arrival fix.

5 Destination airport.

or

ORD[1] IOW[2] KP49G[3] KD34U[4] KL16O[5] OAL[6] MOD2[7] SFO[8]

1 Departure airport.

2 Transition fix.

3 Minneapolis ARTCC waypoint.

4 Denver ARTCC Waypoint.

5 Los Angeles ARTCC waypoint.

6 Transition fix.

7 Arrival.

8 Destination airport.

(f) Record latitude/longitude coordinates by two or four figures describing latitude in degrees followed by an N or S, followed by 3 or 5 digits longitude, followed by an E or W. Separate latitude and longitude with a solidus "/." Use leading zeros if necessary.

(g) File at FL 390 or above for the random RNAV portion of the flight.

(h) Fly all routes/route segments on Great Circle tracks.

(i) Make any inflight requests for random RNAV clearances or route amendments to an en route ATC facility.

5-1-7. Flight Plans For Military/DoD Use Only

(See Appendix 4, FAA Form 7233-1, Flight Plan)

Within U.S. controlled airspace, FAA Form 7233-1 or DD Form 175 may be used by DoD aircraft. However, use of the DD Form 1801 by DoD aircraft is recommended for IFR flights and is mandatory for:

a. Any flight that will depart U.S. controlled airspace.

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

NOTE-

1. *The order of flight plan elements in DD Form 175 is equivalent to that of FAA Form 7233-1.*

2. *Civilians who file stereo route flight plans, may use FAA Form 7233-1, Flight Plan.*

5-1-8. Flight Plan - Defense VFR (DVFR) Flights

VFR flights (except for DoD and law enforcement flights) into an ADIZ are required to file DVFR flight plans for security purposes. Detailed ADIZ procedures are found in Section 6, National Security and Interception Procedures, of this chapter.

REFERENCE-

14 CFR part 99, Security Control for Air Traffic.

a. DVFR flight plans must be filed using FAA Form 7233-4 or DD Form 1801.

b. Enter the letter "D" in Item 8, Type of Flight, of FAA Form 7233-4 or DD Form 1801.

c. DVFR flights where pilots decline search and rescue coverage must clearly indicate "NORIV" in Item 18 following the indicator "RMK/." This flight plan must still be activated in order to properly notify NORAD, however no flight plan cancellation will be expected.

EXAMPLE-

RMK/NORIV

5-1-9. Single Flights Conducted With Both VFR and IFR Flight Plans

a. Flight plans which combine VFR operation on an active VFR flight plan for one portion of a flight, and IFR for another portion, sometimes known as a composite flight plan, cannot be accepted or processed by current en route automation systems.

b. Pilots are free to operate VFR in VFR conditions prior to accepting an IFR clearance from the appropriate control facility, or may cancel an IFR clearance and proceed VFR as desired. However, if a pilot desires to be on an active VFR flight plan, with search and rescue provisions, for the portion of flight not conducted under an IFR clearance, a separate VFR flight plan must be filed, activated, and closed.

c. If a pilot desires to be on an active VFR flight plan prior to or following the IFR portion of the flight, that flight plan must be filed and processed as a distinct and separate flight plan. The VFR flight plan must be opened and closed with either a Flight Service Station or other service provider having the capability to open and close VFR flight plans. Air Traffic Control does not have the ability to determine if an aircraft is operating on an active VFR flight plan and cannot process the activation or cancellation of a VFR flight plan.

d. Pilots may propose to commence the IFR portion of flight at a defined airborne point. This airborne point, or fix, is entered as the departure point in Item 13 of FAA Form 7233-4 or DD Form 1801.

e. Pilots may indicate in the IFR flight plan the intention to terminate the IFR portion of flight at any defined airborne point. The airborne point, or fix, is entered as the destination point in Item 16 of FAA Form 7233-4 or DD Form 1801.

control facility.

g. If the pilot does not desire further clearance after reaching the clearance limit, he or she must advise ATC to cancel the IFR clearance.

5-1-10. IFR Operations to High Altitude Destinations

a. Pilots planning IFR flights to airports located in mountainous terrain are cautioned to consider the necessity for an alternate airport even when the forecast weather conditions would technically relieve them from the requirement to file one.

REFERENCE-

14 CFR section 91.167.

AIM, Para 4-1-19, Tower En Route Control (TEC).

b. The FAA has identified three possible situations where the failure to plan for an alternate airport when flying IFR to such a destination airport could result in a critical situation if the weather is less than forecast and sufficient fuel is not available to proceed to a suitable airport.

1. An IFR flight to an airport where the Minimum Descent Altitudes (MDAs) or landing visibility minimums for *all instrument approaches* are higher than the forecast weather minimums specified in 14 CFR section 91.167(b). For example, there are 3 high altitude airports in the U.S. with approved instrument approach procedures where all of the MDAs are greater than 2,000 feet and/or the landing visibility minimums are greater than 3 miles (Bishop, California; South Lake Tahoe, California; and Aspen-Pitkin Co./Sardy Field, Colorado). In the case of these airports, it is possible for a pilot to elect, on the basis of forecasts, not to carry sufficient fuel to get to an alternate when the ceiling and/or visibility is actually lower than that necessary to complete the approach.

2. A small number of other airports in mountainous terrain have MDAs which are slightly (100 to 300 feet) below 2,000 feet AGL. In situations where there is an option as to whether to plan for an alternate, pilots should bear in mind that just a slight worsening of the weather conditions from those forecast could place the airport below the published IFR landing minimums.

3. An IFR flight to an airport which requires special equipment; i.e., DME, glide slope, etc., in order to make the available approaches to the lowest minimums. Pilots should be aware that all other minimums on the approach charts may require weather conditions better than those specified in 14 CFR section 91.167(b). An inflight equipment malfunction could result in the inability to comply with the published approach procedures or, again, in the position of having the airport below the published IFR landing minimums for all remaining instrument approach alternatives.

5-1-11. Flights Outside U.S. Territorial Airspace

a. When conducting flights, particularly extended flights, outside the U.S. and its territories, full account should be taken of the amount and quality of air navigation services available in the airspace to be traversed. Every effort should be made to secure information on the location and range of navigational aids, availability of communications and meteorological services, the provision of air traffic services, including alerting service, and the existence of search and rescue services.

limitations, or cockpit duties prevent simultaneous guarding of two channels. Guarding of 121.5 MHz is particularly critical when operating in proximity to Flight Information Region (FIR) boundaries, for example, operations on Route R220 between Anchorage and Tokyo, since it serves to facilitate communications with regard to aircraft which may experience in-flight emergencies, communications, or navigational difficulties.

REFERENCE-

ICAO Annex 10, Vol II, Paras 5.2.2.1.1.1 and 5.2.2.1.1.2.

c. The filing of a flight plan, always good practice, takes on added significance for extended flights outside U.S. airspace and is, in fact, usually required by the laws of the countries being visited or overflown. It is also particularly important in the case of such flights that pilots leave a complete itinerary and schedule of the flight with someone directly concerned and keep that person advised of the flight's progress. If serious doubt arises as to the safety of the flight, that person should first contact the appropriate FSS. Round Robin Flight Plans to Canada and Mexico are not accepted.

d. All pilots should review the foreign airspace and entry restrictions published in the appropriate Aeronautical Information Publication (AIP) during the flight planning process. Foreign airspace penetration without official authorization can involve both danger to the aircraft and the imposition of severe penalties and inconvenience to both passengers and crew. A flight plan on file with ATC authorities does not necessarily constitute the prior permission required by certain other authorities. The possibility of fatal consequences cannot be ignored in some areas of the world.

e. Current NOTAMs for foreign locations must also be reviewed. International Notices regarding specific countries may be obtained through the Federal NOTAM System (FNS) NOTAM Search External Links or the Air Traffic Plans and Publications website. For additional flight information at foreign locations, pilots should also review the FAA's Prohibitions, Restrictions, and Notices website at https://www.faa.gov/air_traffic/publications/us_restrictions/.

f. When customs notification to foreign locations is required, it is the responsibility of the pilot to arrange for customs notification in a timely manner.

g. Aircraft arriving to locations in U.S. territorial airspace must meet the entry requirements as described in AIM Section 6, National Security and Interception Procedures.

5-1-12. Change in Flight Plan

a. In addition to altitude or flight level, destination and/or route changes, increasing or decreasing the speed of an aircraft constitutes a change in a flight plan. Therefore, at any time the average true airspeed at cruising altitude between reporting points varies or is expected to vary from that given in the flight plan by *plus or minus 5 percent, or 10 knots, whichever is greater,* ATC should be advised.

b. All changes to existing flight plans should be completed more than 46 minutes prior to the proposed departure time. Changes must be made with the initial flight plan service provider. If the initial flight plan's service provider is unavailable, filers may contact an ATC facility or FSS to make the necessary revisions.

facility or FSS.

5-1-13. Change in Proposed Departure Time

a. To prevent computer saturation in the en route environment, parameters have been established to delete proposed departure flight plans which have not been activated. Most centers have this parameter set so as to delete these flight plans a minimum of 2 hours after the proposed departure time or Expect Departure Clearance Time (EDCT). To ensure that a flight plan remains active, pilots whose actual departure time will be delayed 2 hours or more beyond their filed departure time, are requested to notify ATC of their new proposed departure time.

b. Due to traffic saturation, ATC personnel frequently will be unable to accept these revisions via radio. It is recommended that you forward these revisions to a flight plan service provider or FSS.

5-1-14. Closing VFR/DVFR Flight Plans

A pilot is responsible for ensuring that his/her VFR or DVFR flight plan is canceled. You should close your flight plan with the nearest FSS, or if one is not available, you may request any ATC facility to relay your cancellation to the FSS. Control towers do not automatically close VFR or DVFR flight plans since they do not know if a particular VFR aircraft is on a flight plan. If you fail to report or cancel your flight plan within $^{1}/_{2}$ hour after your ETA, search and rescue procedures are started.

REFERENCE-

14 CFR Section 91.153.

14 CFR Section 91.169.

5-1-15. Canceling IFR Flight Plan

a. 14 CFR sections 91.153 and 91.169 include the statement “When a flight plan has been activated, the pilot-in-command, upon canceling or completing the flight under the flight plan, must notify an FAA Flight Service Station or ATC facility.”

b. An IFR flight plan may be canceled at any time the flight is operating in VFR conditions outside Class A airspace by pilots stating “CANCEL MY IFR FLIGHT PLAN” to the controller or air/ground station with which they are communicating. Immediately after canceling an IFR flight plan, a pilot should take the necessary action to change to the appropriate air/ground frequency, VFR radar beacon code and VFR altitude or flight level.

c. ATC separation and information services will be discontinued, including radar services (where applicable). Consequently, if the canceling flight desires VFR radar advisory service, the pilot must specifically request it.

NOTE-

Pilots must be aware that other procedures may be applicable to a flight that cancels an IFR flight plan within an area where a special program, such as a designated TRSA, Class C airspace, or Class B airspace, has been established.

d. If a DVFR flight plan requirement exists, the pilot is responsible for filing this flight plan to replace the canceled IFR flight plan. If a subsequent IFR operation becomes necessary, a new IFR flight plan must be

automatically closed upon landing.

f. If operating on an IFR flight plan to an airport where there is no functioning control tower, the pilot must initiate cancellation of the IFR flight plan. This can be done after landing if there is a functioning FSS or other means of direct communications with ATC. In the event there is no FSS and/or air/ground communications with ATC is not possible below a certain altitude, the pilot should, weather conditions permitting, cancel the IFR flight plan while still airborne and able to communicate with ATC by radio. This will not only save the time and expense of canceling the flight plan by telephone but will quickly release the airspace for use by other aircraft.

5-1-16. RNAV and RNP Operations

a. During the pre-flight planning phase the availability of the navigation infrastructure required for the intended operation, including any non-RNAV contingencies, must be confirmed for the period of intended operation. Availability of the onboard navigation equipment necessary for the route to be flown must be confirmed. Pilots are reminded that on composite VFR to IFR flight plan, or on an IFR clearance, while flying unpublished departures via RNAV into uncontrolled airspace, the PIC is responsible for terrain and obstruction clearance until reaching the MEA/MIA/MVA/OROCA.

NOTE-

OROCA is a published altitude which provides 1,000 feet of terrain and obstruction clearance in the U.S. (2,000 feet of clearance in designated mountainous areas). These altitudes are not assessed for NAVAID signal coverage, air traffic control surveillance, or communications coverage, and are published for general situational awareness, flight planning and in-flight contingency use.

b. If a pilot determines a specified RNP level cannot be achieved, revise the route or delay the operation until appropriate RNP level can be ensured.

c. The onboard navigation database must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and coded terminal airspace procedures for the departure, arrival and alternate airfields.

d. During system initialization, pilots of aircraft equipped with a Flight Management System or other RNAV-certified system, must confirm that the navigation database is current, and verify that the aircraft position has been entered correctly. Flight crews should crosscheck the cleared flight plan against charts or other applicable resources, as well as the navigation system textual display and the aircraft map display. This process includes confirmation of the waypoints sequence, reasonableness of track angles and distances, any altitude or speed constraints, and identification of fly-by or fly-over waypoints. A procedure must not be used if validity of the navigation database is in doubt.

e. Prior to commencing takeoff, the flight crew must verify that the RNAV system is operating correctly and the correct airport and runway data have been loaded.

f. During the pre-flight planning phase RAIM prediction must be performed if TSO-C129() equipment is used to solely satisfy the RNAV and RNP requirement. GPS RAIM availability must be confirmed for the

continuous loss of RAIM for more than five (5) minutes for any part of the intended flight, the flight should be delayed, canceled, or re-routed where RAIM requirements can be met. Operators may satisfy the predictive RAIM requirement through any one of the following methods:

1. Operators may monitor the status of each satellite in its plane/slot position, by accounting for the latest GPS constellation status (for example, NOTAMs or NANUs), and compute RAIM availability using model-specific RAIM prediction software;

2. Operators may use the Service Availability Prediction Tool (SAPT) on the FAA en route and terminal RAIM prediction website;

3. Operators may contact a Flight Service Station to obtain non-precision approach RAIM;

4. Operators may use a third party interface, incorporating FAA/VOLPE RAIM prediction data without altering performance values, to predict RAIM outages for the aircraft's predicted flight path and times;

5. Operators may use the receiver's installed RAIM prediction capability (for TSO-C129a/Class A1/B1/C1 equipment) to provide non-precision approach RAIM, accounting for the latest GPS constellation status (for example, NOTAMs or NANUs). Receiver non-precision approach RAIM should be checked at airports spaced at intervals not to exceed 60 NM along the RNAV 1 procedure's flight track. “Terminal” or “Approach” RAIM must be available at the ETA over each airport checked; or,

6. Operators not using model-specific software or FAA/VOLPE RAIM data will need FAA operational approval.

NOTE-

If TSO-C145/C146 equipment is used to satisfy the RNAV and RNP requirement, the pilot/operator need not perform the prediction if WAAS coverage is confirmed to be available along the entire route of flight. Outside the U.S. or in areas where WAAS coverage is not available, operators using TSO-C145/C146 receivers are required to check GPS RAIM availability.

5-1-17. Cold Temperature Operations

a. Pilots should begin planning for cold temperature operations during the preflight planning phase. Cold temperatures produce barometric altimetry errors, which affect instrument flight procedures. Currently there are two temperature limitations that may be published in the notes box of the middle briefing strip on an instrument approach procedure (IAP). The two published temperature limitations are:

1. A temperature range limitation associated with the use of baro-VNAV that may be published on an United States PBN IAP titled RNAV (GPS) or RNAV (RNP); and/or

2. A Cold Temperature Airport (CTA) limitation designated by a snowflake ICON and temperature in Celsius (C) that is published on every IAP for the airfield.

the temperature is forecast to be outside of the baro-VNAV or at or below the CTA temperature limitation, consider the following:

1. When using baro-VNAV with an aircraft that does not have an automated temperature compensating function, pilots should plan to use the appropriate minima and/or IAP.

(a) The LNAV/VNAV line of minima on an RNAV (GPS) may not be used without an approved automated temperature compensating function if the temperature is outside of the baro-VNAV temperature range limitation. The LNAV minima may be used.

(b) The RNAV (RNP) procedure may not be accomplished without an approved automated temperature compensating function if the temperature is outside of the baro-VNAV temperature range limitation.

2. If the temperature is forecast to be at or below the published CTA temperature, pilots should calculate a correction for the appropriate segment/s or a correction for all the segments if using the "All Segments Method."

Pilots should review the operating procedures for the aircraft's temperature compensating system when planning to use the system for any cold temperature corrections. Any planned altitude correction for the intermediate and/or missed approach holding segments must be coordinated with ATC. Pilots do not have to advise ATC of a correction in the final segment.

NOTE-

The charted baro-VNAV temperature range limitation does not apply to pilots operating aircraft with an airworthiness approval to conduct an RNAV (GPS) approach to LNAV/VNAV minimums with the use of SBAS vertical guidance.

REFERENCE-

AIM, Chapter 7, Section 3, Cold Temperature Barometric Altimeter Errors, Setting Procedures, and Cold Temperature Airports (CTA).