Alternate Airport Flight Planning Using GPS and WAAS Policy Statement

Introduction

This policy statement explains a change to policy for civilian aviation. The FAA reviewed the current requirements placed on aircraft Global Positioning System (GPS) navigation systems with respect to alternate airport planning requirements. The FAA also studied the availability of GPS and Wide Area Augmentation System (WAAS) for GPS and WAAS-based instrument approaches at destination and alternate airports. As a result, the FAA has updated the policy and provided clarification to enable additional flexibility for users while maintaining safety in the National Airspace System (NAS).

Policy Change for GPS Users

The current alternate airport planning policy allows Technical Standard Order (TSO)-C129() and TSO-C196() equipped users (GPS users) to plan for GPS-based instrument approach procedures (IAP) at their destination but not at their alternate airport.

The FAA has updated this policy to allow an option to flight plan for use of a GPS-based IAP at either the destination or the alternate airport, but not at both locations. At the alternate airport, pilots may plan for applicable alternate airport weather minimums using:

1. Lateral navigation (LNAV) or circling minimum descent altitude (MDA);
2. LNAV/vertical navigation (LNAV/VNAV) decision altitude (DA) if equipped with and using approved barometric vertical navigation (baro-VNAV);

3. RNP 0.3 DA on an RNAV (RNP) IAP if specifically authorized with approved baro-VNAV equipment.

To take advantage of this option, GPS users must:

1. have navigation systems with fault detection and exclusion (FDE) capability.
2. perform a preflight Receiver Autonomous Integrity Monitoring

(RAIM) prediction for the approach integrity at the airport where the GPS-based IAP will be flown.
3. have proper knowledge and any required training and/or approval to conduct a GPS-based IAP.
4. ensure that the conventional approach (at destination or alternate) can be flown without reliance on GPS.

The FAA based this policy change on research that demonstrated a satisfactorily low probability of a missed approach or diversion and an even more remote probability concerning loss of navigation.

Policy Change Example:

A GPS user without approved baro-VNAV capability is planning a flight to Frederick, MD (KFDK) with York, PA (KTHV) as the planned alternate. Frederick has an ILS IAP available while York has an RNAV (GPS) IAP with LNAV minimums and an NDB IAP.

Under the revised policy, the GPS user may flight plan for the ILS at Frederick and the RNAV (GPS) LNAV minimums at York for the alternate. The previous policy would have prevented the GPS user from flight planning the RNAV (GPS) IAP at the alternate.

Policy Clarification for WAAS Users

The current alternate airport planning policy explicitly prohibits TSO-C145() and TSO-C146() equipped users (WAAS users) from planning to use WAAS vertical guidance at their alternate airport.

There are some WAAS integrations that use baro-VNAV for vertical guidance. WAAS users should consult their flight manuals for this information. This policy clarification allows properly trained and approved, as required, WAAS users equipped with and using approved baro-VNAV equipment to plan for applicable alternate airport weather minimums using:

1. LNAV/VNAV DA at an alternate airport.

2. RNP 0.3 DA on an RNAV (RNP) IAP at the alternate airport if specifically authorized.

The FAA based this policy clarification on the facts that GPS-based lateral guidance is the same for LNAV, LNAV/VNAV and RNP 0.3 DA and approved barometric vertical navigation equipment does not rely on GPS information. Therefore, a loss of GPS vertical would not affect these WAAS users navigating vertically with baro-VNAV.

Policy Clarification Example:

A WAAS user that also has approved baro-VNAV capability on the aircraft is planning a flight to Frederick, MD (KFDK) with Leesburg, VA (KJYO) as the planned alternate. Frederick has an RNAV (GPS) IAP

with LPV minima while Leesburg has an ILS that is out of service per NOTAM and an RNAV (GPS) IAP.
Under the new policy clarification, this WAAS user may flight plan for the LPV at Frederick and the RNAV (GPS) LNAV/VNAV minima (based on using baroVNAV) at Leesburg for the alternate. Since baro-VNAV is supplying the vertical information, the charted temperature restrictions apply.

Alternate Airport Weather Minimums

This policy change for GPS users and clarification for WAAS users does not alleviate responsibility to comply with Code of Federal Regulations, Title 14, Part 91, § 91.169, regarding instrument flight rules (IFR) alternate airport weather minima guidance for non-precision approach procedures; or operations specification (OpSpec), management specification (MSpec) or letter of authorization (LOA) paragraph C055, *Alternate Airport IFR Weather Minimums*; or OpSpec/MSpec paragraph H105, *Alternate Airport IFR Weather Minimums*, as applicable.

Conclusion

The FAA policy change and clarification promote flexibility for users while preserving safety in the NAS. GPS users meeting the requirements specified above, may plan to use GPS-based IAP at either their destination or alternate airport, but not at both locations. WAAS users equipped with and using approved baro-VNAV equipment may plan for LNAV/VNAV or RNP 0.3 DA, as specified above, at the alternate airport. In line with the previous policy, WAAS users without baro-VNAV may still plan for LNAV at an alternate airport. The FAA is updating Orders, Advisory Circulars, inspector guidance, *Aeronautical Information Manual, Instrument Flying Handbook, Advanced Avionics Handbook, Instrument Procedures Handbook* and other guidance documents to incorporate this policy change and clarification.