WAAS for Regional and Cargo Operators

Federal Aviation Administration

Using WAAS, regional operators can access over 2,500 runways in poor weather conditions with minimums as low as 200 feet. Dispatch reliability is improved and receiver autonomous integrity monitoring (RAIM) checks are no longer required. WAAS can even get you into places where ILS may not be available. In addition to its unprecedented benefits related to airport access, WAAS offers a number of other benefits. There are now twice as many WAAS procedures (LPVs and LPs) as there are ILS glide slopes in the U.S. National Airspace System.

Benefits of WAAS compared with Conventional NAVAIDS for Flight Planning, Terminal and Enroute Operations

- Allows use of LNAV/VNAV minima without temperature restrictions
- Provides vertically-guided approach procedures capability at airports that do not have ground-based navigational aides *(Some infrastructure upgrades may be required to get the best possible minimums. More information is available in "Maximizing Airport Operations Using the Wide Area Augmentation System" available at http://gps.faa.gov.)*
- Is not affected by snow reflections that can impact ILS operations
- Satisfies equipment requirements for 'T' and 'Q' routes (meets SFAR 97 in Alaska)
- WAAS provides two additional ranging sources (from WAAS GEOs)
- Extension of terminal mode operations for both departure and arrival to beyond 30 miles from the airport reference point
- Increased accuracy and availability

WAAS Dispatch Considerations

- Eliminates RAIM check requirement per AC 90-100A
- Allows RNAV (GPS) approaches to be used for alternate airport flight planning
- Increases number of alternate airport options which improves flight planning flexibiity
- Allows dispatch to airports with NAVAIDS NOTAMed out

WAAS LPVs Provide Similar Level of Service to Category I ILS

- Vertical guidance
- Glidepath more stable than that of ILS
- Minimums as low as 200 feet, which is lower than all Required Navigation Performance (RNP) Authorization Required (AR) approaches and all conventional (e.g. VOR, NDB) non-precision approaches

WAAS LPVs Outnumber Category I ILS Approaches Within the U.S.

As of January 12, 2012:

- 2,748 published LPVs
- Serving 1,399 airports
- 1,166 LPVs serving 714 non-ILS airports
- FAA is adding 500 new WAAS procedures each year

WAAS Localizer Performance (LP) Approaches Introduced

- To be published where terrain or obstructions prevent LPVs from being published
- Often provides lower minima than lateral navigation (LNAV) procedures
- Provides non-precision approach equivalent to ILS localizer-only approach

The FAA is currently working with three regional airlines and a regional cargo operator to expand the use and benefits of Global Navigation Satellite System (GNSS) technology and services. These projects are underway as a major collaboration of the FAA's GNSS Operational Implementation Team (OIT) and government industry partnerships. GNSS is the international term for a worldwide satellite-based navigation system. The Global Positioning System (GPS) and the Wide Area Augmentation System (WAAS) are U.S.-provided components of this system. The strategic objective of these projects is to demonstrate the operational capabilities and significant benefits of WAAS in a complex airspace environment while expanding the ability to operate into less improved airports with greater reliability and efficiencies. The lessons learned from these demonstration projects can be applied to similar airspace environments around the U.S. National Airspace.