Mr. Keith Freitas  
Buchanan Field  
550 Sally Ride Drive  
Concord, CA  94520  

Dear Airport Manager:

Congratulations! You are receiving this package because your airport has received an LPV (Localizer Performance with Vertical guidance) or an LP (Localizer Performance) instrument approach procedure. LPV and LP approaches are made possible through the use of the Wide Area Augmentation System (WAAS), a navigation service provided by the Federal Aviation Administration. We have enclosed information about WAAS so that you can learn more about the technology and the innovative type of approach procedure that WAAS now supports at your airport.

Through the use of LPV and LP approaches, WAAS is providing increased safety and improved access into airports. LPVs provide vertically-guided approach paths as low as 200 feet above touchdown without the addition of any navigation equipment at the airport. As of March 5, 2012, there were 2,776 LPVs published at 1,412 airports. The LP approach procedure, introduced in 2011, is suited to locations where terrain or obstructions prevent publication of a vertically-guided approach procedure, such as an LPV. As of March 5, 2012, there were 256 LPs published at 186 airports. The FAA is committed to producing 500 additional WAAS approaches per year for the next several years.

To supplement the information in this package, there is additional information on our website at [http://gps.faa.gov](http://gps.faa.gov). The website provides information on how WAAS works, information on future WAAS enhancements, and updates on recently published or amended LPV approaches.

Please feel free to distribute the information to the appropriate offices at your airport.

We hope that your airport will soon realize the full benefits that WAAS and your LPV or LP approach provides.

Sincerely,

[Signature]

Deborah Lawrence  
Federal Aviation Administration  
Wide Area Augmentation System (WAAS) Program Manager
WAAS Quick Facts

Using WAAS, aircraft can access over 2,700 runway ends in poor weather conditions with minimums as low as 200 feet. WAAS can even get you into places where the Instrument Landing System (ILS) may not be available. In addition to its unprecedented benefits related to airport access, WAAS also 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.

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 March 8, 2012:
- 2,776 published LPVs
- Serving 1,412 airports
- 1,164 LPVs serving 720 non-LS airports
- FAA is adding 500 new WAAS procedures each year

Benefits of WAAS compared with GPS 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 aids (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
- Allows RNAV (GPS) approaches to be used for alternate airport flight planning
- Increases number of alternate airport options which improves flight planning flexibility
- Satisfies equipment requirements for ‘T’ and ‘Q’ routes (meets SFAR 97 in Alaska)

- Eliminates RAIM check requirement per AC 90-103A
- WAAS provides two additional ranging sources (from WAAS GEOs)
- Enables extension of terminal mode operations for both departure and arrival to beyond 30 nautical miles from the airport reference point
- Increased accuracy and availability

GPS/WAAS Technical Standard Orders
TSO-C145c - “Airborne Navigation Sensors Using the GPS Augmented by the Satellite-Based Augmentation System”

TSO-C146c - “Stand-Alone Airborne Navigation Equipment Using the GPS System Augmented by the Satellite-Based Augmentation System”

To access a current coverage map, go to http://gps.faa.gov and click on “Real-time WAAS Coverage” in the sliding banner of image links (in the News) near the top of the page
LPV Approaches Enabled by a WAAS Receiver
The Localizer Performance with Vertical guidance (LPV) procedure takes advantage of the accuracy of WAAS to provide an instrument approach procedure equivalent to a Category 1 ILS approach. While an LPV approach looks and flies like an ILS approach, it provides the pilot with more stable vertical guidance. An LPV approach can provide minima as low as 200 feet at qualifying airports.

WAAS LP Approaches Introduced
The new Localizer Performance (LP) procedures can offer the lower minima than lateral navigation (LNAV) procedures due to the narrower Obstacle Clearance Surface (OCS). The smaller LP OCS footprint provides greater potential for avoiding more obstructions in the final approach segment that would otherwise require the minima to be higher. LPs will be published at locations where the terrain or obstructions do not allow publication of LPV procedures. As of March 8, 2012, there are 258 LPs serving 186 airports, 203 of those serving 142 non-ILS airports.

NOTE - WAAS receivers certified prior to TSO C-145b and TSO C-146b, even if they have LPV capability, do not contain LP capability unless the receiver has been upgraded. Receivers capable of flying LP procedures must contain a statement in the Flight Manual Supplement or Approved Supplemental Flight Manual stating that the receiver has LP capability, as well as the capability for the other WAAS and GPS approach procedure.

Important RNAV Approach Information

| WAAS Channel Number: CH 56503
| WAAS Approach ID: W17A
| W: WAAS
| 17: Runway 17L
| A: 1st WAAS Approach to RWY 17L

Temperature Restriction does not apply to WAAS equipment

LPV Minimum Line (flown with WAAS receiver only)

How to Request an LPV or LP Approach at Your Airport
Click on the header above or go to http://gps.faa.gov and type “request an LPV” in the search box.

Where to Find Listing of Airports with LPV and LP Approaches
Click on the header above or go to http://gps.faa.gov and click on “GPS/WAAS Approaches” in the sliding banner of image links (in the News) near the top of the page.

http://gps.faa.gov

as of 3/8/2012