



U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of Air Traffic Organization

800 Independence Ave., SW.
Washington, DC 20591

2012 APR 26 P 3: 24

April 2, 2012

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>. 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,

A handwritten signature in cursive script that reads "Deborah Lawrence".

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

WAAS CH 86424 W19A	APP CRS 187°	Rwy Idg 4410 THRE 22 Apt Elev 26
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RNAV (GPS) Z RWY 19R

CONCORD/BUCHANAN FIELD (CCR)

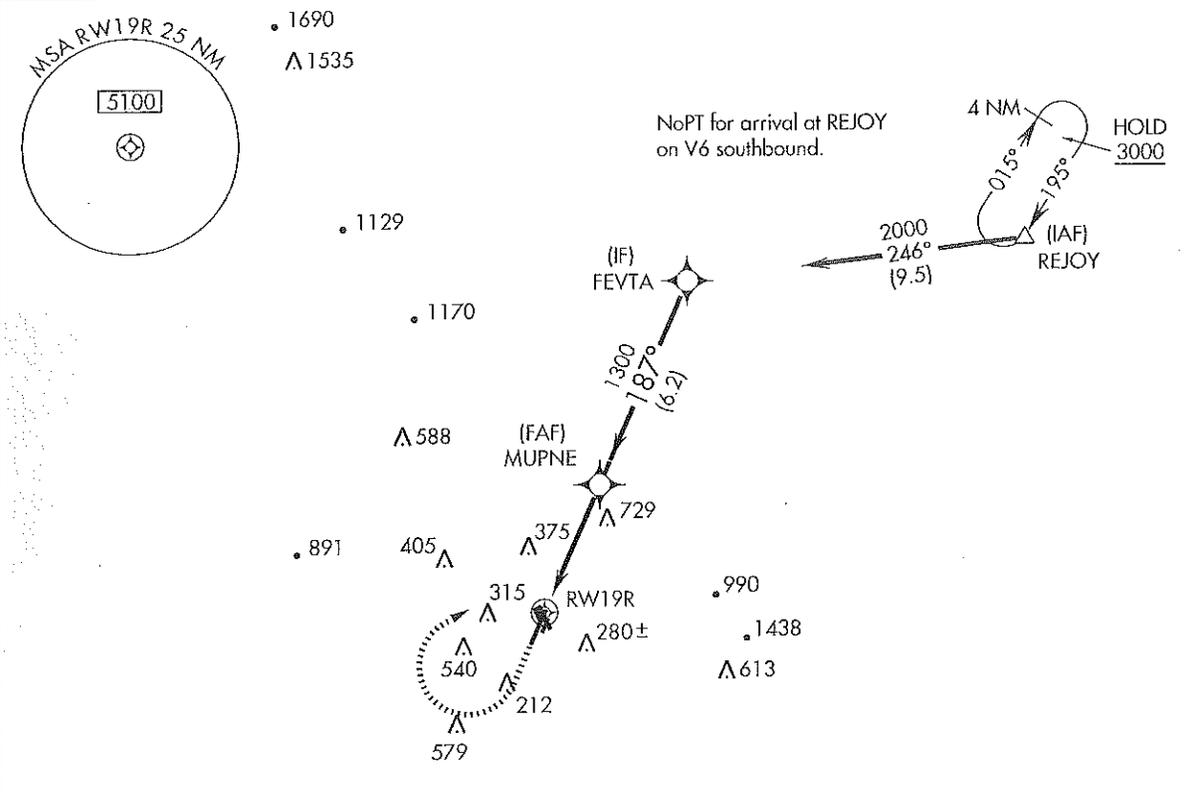
▼ DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
 ▲ For inoperative MALS, increase LPV all Cats visibility to 2¾ miles.
 * Inoperative table does not apply.
 * Missed approach requires minimum climb of 500 feet per NM to 2000.



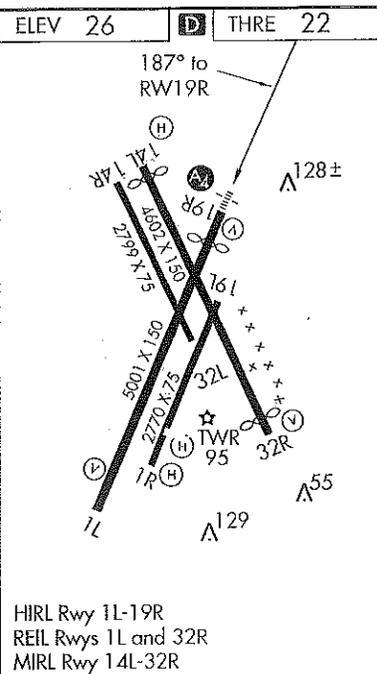
MISSED APPROACH: Climb to 1350 then climbing right turn to 3000 direct REJOY and hold.

ATIS 124.7	TRAVIS APP CON 119.9 322.325	CONCORD TOWER* 119.7 (CTAF) 257.8	GND CON 121.9	CLNC DEL 118.75	UNICOM 122.95
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SW-2, 05 APR 2012 to 03 MAY 2012



SW-2, 05 APR 2012 to 03 MAY 2012



ELEV 26	D	THRE 22		
187° to RW19R				
1350	3000	REJOY		
↑	↷	△		
VGSI and RNAV glidepath not coincident. (VGSI Angle 4.00°/TCH 28).				
MUPNE	FEVTA			
1300	2000			
RW19R	187°	GS 3.00° TCH 45		
3.9 NM	6.2 NM			
CATEGORY	A	B	C	D
LPV DA *	272-¾	250 (300-¾)		NA
LPV DA	822-2½	800 (800-2½)		NA



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

- Eliminates RAIM check requirement per AC 90-100A
- 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

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-ILS airports
- FAA is adding 500 new WAAS procedures each year

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

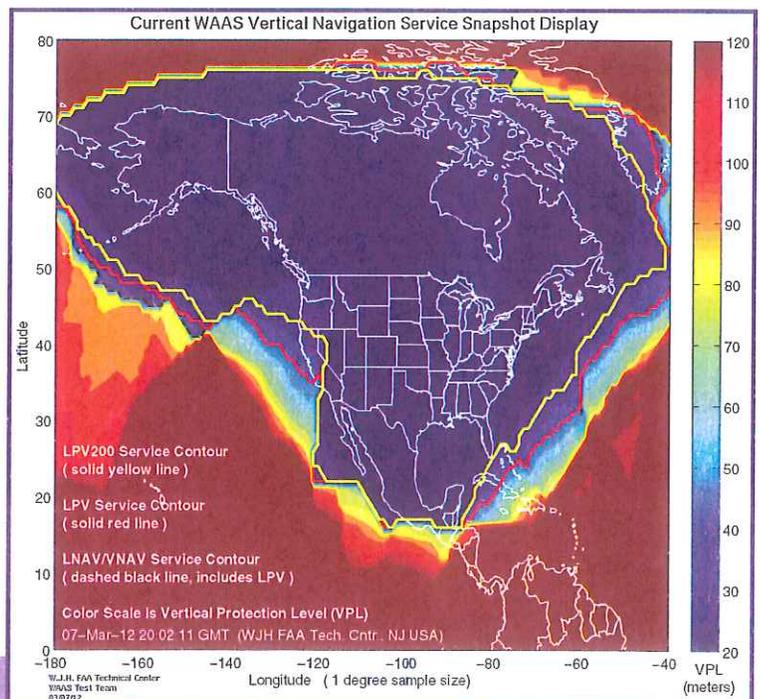
- Allows use of LNAV/VNAV minima without temperature restrictions
- Provides vertically-guided approach procedures capability at airports that do not have ground-based navigational aides (Some infrastructure upgrades may be required to get the best possible minimums. More information is available in "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
- 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)

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



Wide Area Augmentation System (WAAS)

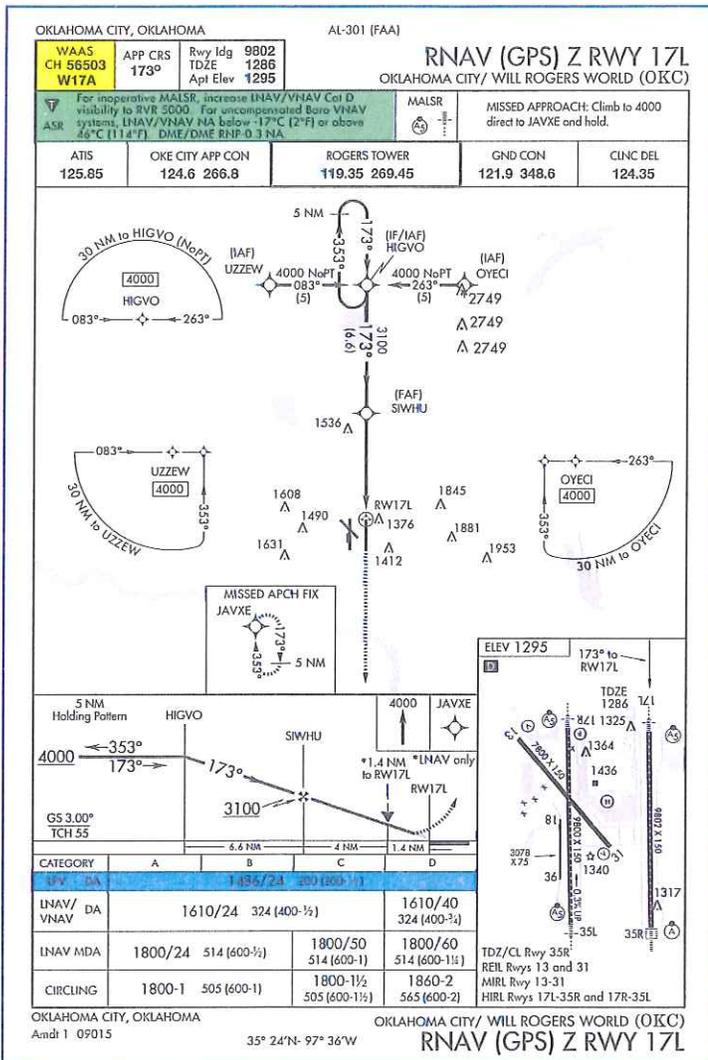
LPV Approaches Enabled by a WAAS Receiver

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 I 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 minimums as low as 200 feet at qualifying airports.

WAAS LP Approaches Introduced

The new Localizer Performance (LP) procedures can often provide 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 256 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
CH 56503
W17A

WAAS Channel Number: CH 56503

WAAS Approach ID: W17A

W: WAAS

17: Runway 17L

A: 1st WAAS Approach to RWY 17L

For inoperative MALSR, increase LNAV/VNAV Cat D visibility to RVR 5000. For uncompensated Baro VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.

Temperature Restriction does not apply to WAAS equipment

LPV DA 1486/24 200 (200-1/2)

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>