

which are presently authorized to conduct GPS approaches.

NOTE—

GPS receivers approved for approach operations in accordance with: AC 20–138, Airworthiness Approval of Positioning and Navigation Systems, qualify for this minima. WAAS navigation equipment must be approved in accordance with the requirements specified in TSO–C145() or TSO–C146() and installed in accordance with Advisory Circular AC 20–138.

2. Other systems may be authorized to utilize these approaches. See the description in Section A of the U.S. Terminal Procedures books for details. Operational approval must also be obtained for Baro–VNAV systems to operate to the LNAV/VNAV minimums. Baro–VNAV may not be authorized on some approaches due to other factors, such as no local altimeter source being available. Baro–VNAV is not authorized on LPV procedures. Pilots are directed to their local Flight Standards District Office (FSDO) for additional information.

NOTE—

RNAV and Baro–VNAV systems must have a manufacturer supplied electronic database which must include the waypoints, altitudes, and vertical data for the procedure to be flown. The system must be able to retrieve the procedure by name from the aircraft navigation database, not just as a manually entered series of waypoints.

3. ILS or RNAV (GPS) charts.

(a) Some RNAV (GPS) charts will also contain an ILS line of minima to make use of the ILS precision final in conjunction with the RNAV GPS capabilities for the portions of the procedure prior to the final approach segment and for the missed approach. Obstacle clearance for the portions of the procedure other than the final approach segment is still based on GPS criteria.

NOTE—

Some GPS receiver installations inhibit GPS navigation whenever ANY ILS frequency is tuned. Pilots flying aircraft with receivers installed in this manner must wait until they are on the intermediate segment of the procedure prior to the PFAF (PFAF is the active waypoint) to tune the ILS frequency and must tune the ILS back to a VOR frequency in order to fly the GPS based missed approach.

(b) **Charting.** There are charting differences between ILS, RNAV (GPS), and GLS approaches.

(1) The LAAS procedure is titled “GLS RWY XX” on the approach chart.

(2) The VDB provides information to the airborne receiver where the guidance is synthesized.

(3) The LAAS procedure is identified by a four alpha–numeric character field referred to as the RPI or approach ID and is similar to the IDENT feature of the ILS.

(4) The RPI is charted.

(5) Most RNAV(GPS) approach charts have had the GLS (NA) minima line replaced by an LPV line of minima.

(6) Since the concepts for LAAS and WAAS procedure publication have evolved, GLS will now be used only for LAAS minima, which will be on a separate approach chart.

4. Required Navigation Performance (RNP).

(a) Pilots are advised to refer to the “TERMS/LANDING MINIMUMS DATA” (Section A) of the U.S. Government Terminal Procedures books for aircraft approach eligibility requirements by specific RNP level requirements.

(b) Some aircraft have RNP approval in their AFM without a GPS sensor. The lowest level of sensors that the FAA will support for RNP service is DME/DME. However, necessary DME signal may not be available at the airport of intended operations. For those locations having an RNAV chart published with LNAV/VNAV minimums, a procedure note may be provided such as “DME/DME RNP–0.3 NA.” This means that RNP aircraft dependent on DME/DME to achieve RNP–0.3 are not authorized to conduct this approach. Where DME facility availability is a factor, the note may read “DME/DME RNP–0.3 Authorized; ABC and XYZ Required.” This means that ABC and XYZ facilities have been determined by flight inspection to be required in the navigation solution to assure RNP–0.3. VOR/DME updating must not be used for approach procedures.

5. Chart Terminology.

(a) Decision Altitude (DA) replaces the familiar term Decision Height (DH). DA conforms to the international convention where altitudes relate to MSL and heights relate to AGL. DA will eventually be published for other types of instrument approach procedures with vertical guidance, as well. DA indicates to the pilot that the published descent profile is flown to the DA (MSL), where a missed approach will be initiated if visual references for landing are not