

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION National Policy



Effective Date: 4/4/2007 Cancellation Date: 4/4/2008

SUBJ: Operations Specification C052—Basic Instrument Approach Procedure Authorizations—All Airports

- 1. **PURPOSE.** This notice provides guidance for principal operations inspectors (POIs) regarding the revision to operations specification (OpSpec) paragraph C052—Basic Instrument Approach Procedure Authorizations—All Airports. This notice is applicable to all operators conducting operations under Title 14 of the Code of Federal Regulations (14 CFR) parts 91 subpart K, 121, 135, and 125 (including those operators conducting operations under a part 125 Letter of Deviation Authority (LODA)).
- 2. **DISTRIBUTION.** We will distribute this notice to the division level in the Flight Standards Service in Washington headquarters, including the Regulatory Standards Division at the Mike Monroney Aeronautical Center; to the branch level in the regional Flight Standards divisions; and to all Flight Standards District Offices. POIs can access this notice through the Flight Standards Information Management System (FSIMS) at http://fsims.avr.faa.gov. Operators may find this information on the Federal Aviation Administration's (FAA) Web site at: http://www.faa.gov/library/manuals/examiners_inspectors/8000/.
- 3. BACKGROUND. OpSpec/management specification (MSpec)/letter of authorization (LOA) C052 was revised several years ago when the global positioning system (GPS) overlay program was discontinued. The original OpSpec/MSpec/LOA C052 template contained several statements in regard to the training and checking requirements for GPS approaches which were inadvertently removed in the revision. Additionally, since OpSpec/MSpec/LOA C052 was revised, GPS wide area augmentation system (WAAS) flight operations have been implemented, as well as public area navigation (RNAV) approaches using required navigation performance (RNP). This notice provides a revised OpSpec/MSpec/LOA C052 template that addresses:
 - a. Those inadvertently removed training and checking requirements, and
 - **b.** GPS WAAS flight operations.

4. ACTION.

a. Appendix 1 contains the revised guidance from FAA Order 8400.10, Air Transportation Operations Inspector's Handbook, volume 3, chapter 1, section 5, paragraph 83 for authorizing instrument approach procedures in OpSpec/MSpec/LOA C052. Appendix 2 contains a sample of the revised OpSpec/MSpec/LOA C052—Basic Instrument Approach Procedure Authorizations—All Airports.

Distribution: A-W(FS)-2; A-X(FS)-3; A-FFS-7 (LTD); AMA-200 (12 cys) Initiated By: AFS-260 (Electronically: A-W(FS)-2; A-X(FS)-2; A-FFS-7)

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b. The FAA revised (mandatory) OpSpec/MSpec/LOA C052 by adding subparagraph c information to the template for authorizing operators using navigation systems that use GPS or GPS WAAS to fly the following types of standard instrument approach procedures (SIAPs):

- SIAPS with "or GPS" in the title, for example, "VOR or GPS-A"
- · GPS SIAPS, for example, "GPS RWY 2"
- RNAV (GPS) approaches, for example, "RNAV (GPS) RWY 3"
- c. POIs should distribute this notice to their assigned operators and ensure that the requirements of the new subparagraph c are complied with and whether GPS and/or GPS WAAS authorization is applicable.
- d. POIs should also review the OpSpecs of their assigned operators to ensure that OpSpec/MSpec/LOA C052 has NOT been used to authorize RNAV (RNP). All RNAV (RNP) approaches have a "special aircraft and aircrew authorization required (SAAAR)" notation. RNAV (RNP) SAAAR authorizations are nonstandard in nature and are granted by the issuance of nonstandard OpSpec/MSpec/LOA C384. "RNP-like" foreign procedures may be granted only by the issuance of nonstandard OpSpec/MSpec/LOA C358. The nonstandard OpSpec request process must be followed for either of these to be issued.
- **5. DISPOSITION.** We will permanently incorporate the information in this notice in FSIMS before this notice expires. Questions concerning this notice should be directed to the Air Transportation Division, AFS-200, at (202) 267-8166.

James J. Ballough

Director, Flight Standards Service

APPENDIX 1. ORDER 8400.10, VOLUME 3, CHAPTER 1, SECTION 5, PARAGRAPH 83, OPSPEC/MSPEC/LOA C052—BASIC INSTRUMENT APPROACH PROCEDURE AUTHORIZATIONS—ALL AIRPORTS

- A. Applicability. Operations specification (OpSpec)/management specification (MSpec)/letter of authorization (LOA) C052 is applicable to operators conducting operations under Title 14 of the Code of Federal Regulations (14 CFR) parts 91 subpart k, 121, 125 (including those operators conducting operations under a part 125 Letter of Deviation Authority (LODA)), and 135,. OpSpec/MSpec/LOA C052 specifies the types of instrument approaches the operator is authorized to conduct under instrument flight rules (IFR) and prohibits the use of other types of instrument approaches.
- (1) Before authorizing a type of instrument approach procedure (IAP), the principal operations inspector (POI) must ensure the operator has established the aircraft system eligibility and the flightcrew training and checking requirements, and has revised the training and operations manuals, as applicable, for the types of approaches to be authorized.
- (2) See Order 8400.10, volume 4, chapter 2 for information on required training for various types of approaches.
- (3) All the approaches approved by OpSpec/MSpec/LOA C052 must be published in accordance with 14 CFR part 97 or the foreign State authority.
- (4) For part 135 operations, if the visibility and ceiling are below minimums, the reported runway visual range (RVR) may be used if that RVR is at or above the minimums for the instrument procedure being used and authorized for that certificate holder.
- B. Authorization. Three types of IAPs may be authorized in OpSpec/MSpec/LOA C052. (If the certificate holder/program manager/operator is authorized to conduct GPS and/or GPS WAAS instrument approach operations using the approved GPS and/or GPS WAAS equipment with ".... or GPS", GPS, or RNAV (GPS) or RNAV (GNSS) listed in table 1 of OpSpec/MSpec/LOA C052, the aircraft and equipment must be listed in table 1 of paragraph/LOA B034.)
- (1) Column one of OpSpec/MSpec/LOA C052 provides for the authorization of nonprecision IAPs without vertical guidance. Nonprecision approaches must be trained and conducted in accordance with an approved procedure that assures descent will not go below minimum descent altitude (MDA), unless the required visual references for continuing the approach, as specified in 14 CFR part 91, § 91.175, are present.
- (2) Column two of OpSpec/MSpec/LOA C052 provides for the authorization of IAPs with vertical guidance (APVs). These approaches provide vertical guidance, but do not meet the same standards as precision approach systems (for example, instrument landing systems (ILS) and microwave landing systems (MLS)) as defined by the International Civil Aviation Organization (ICAO). These APVs are trained using an approved method that allows descent to a published decision altitude (DA). The column heading agrees with the ICAO acronym, APV, defined as approach procedures with vertical guidance.
- (3) Column three of OpSpec/MSpec/LOA C052 provides for the authorization of precision APVs from an electronic glideslope.
- (4) "*RNAV ILS" is a selectable for column 3 in Table 1 of the C052 template. For example, the United Arab Emirates publishes approach plates for Dubai titled, "RNAV ILS" or "ILS RNAV." The

area navigation (RNAV) portion of the approach constitutes an RNAV standard terminal arrival route (STAR) which must be authorized through the issuance of OpSpec/MSpec/LOA C063, in accordance with guidance for RNAV departure procedures (DPs) and RNAV STARs.

- C. Global Positioning System (GPS) and GPS Wide Area Augmentation System (WAAS) Authorization. Order 8400.10, volume 4, chapter 1, section 2, paragraphs 51 and 52, provide more extensive guidance on GPS and GPS WAAS equipment. The applicant must show that it has the ability to safely conduct GPS operations. The demonstration of GPS (using equipment certified under Technical Standard Order (TSO) C-129a) and/or GPS WAAS (using equipment certified under TSO C-145a/C-146a) instrument approaches may be credited for other equivalent types of required approaches (e.g., nonprecision approaches). Foreign approach procedures may be labeled as "RNAV (GNSS)" (instead of RNAV (GPS)) which is provided as a selectable in OpSpec/MSpec/LOA C052.
- (1) For the certificate holder/program manager/operator using aircraft other than those equipped with a multi-sensor flight management system (FMS), the flightcrew must have successfully completed the certificate holder's/program manager's/operator's [approved-See subparagraph C(5)(h) below] training program curriculum segments for GPS and/or GPS WAAS operations, as applicable, and the pilot in command and the second in command must be checked for competency by an authorized check airman or FAA inspector for instrument approach operations using the GPS in each aircraft type and GPS combination. (Single pilot operators conducting operations under part 135 and issued OpSpec A040 that do not have an approved training program must be checked for competency by an FAA inspector for instrument approach operations using GPS/GPS WAAS, as applicable, in each aircraft type and GPS combination.)
- (2) For those operators whose aircraft are equipped with multi-sensor FMS RNAV systems that include a GPS/GPS WAAS sensor, the requirement to demonstrate a GPS approach during initial qualification checks as described below does not apply (although an inspector or check airman always has the authority to see one demonstrated).
- (3) Operators with various types of stand-alone IFR GPS navigation equipment and databases (other than aircraft equipped with a multi-sensor FMS) are required to demonstrate a GPS approach during initial qualification checks and should continue to be checked to ensure continued proficiency and understanding of the applicable GPS navigation equipment and database performance, limitations and procedures.
- (a) During the initial six (6) months of operation with a particular aircraft type and GPS combination the certificate holder/program manager/operator shall not use IFR approach and landing minimums lower than 200 feet and 1/2 statute mile above the lowest authorized MDA and visibility/runway visual range (RVR) minimums using GPS or GPS WAAS, as applicable.
- (b) The demonstration of any other nonprecision approaches may NOT be credited toward the authorization requirement to demonstrate at least one nonprecision approach utilizing GPS and/or GPS WAAS equipment during the competency check required by § 135.297 and the proficiency check required by § 121.441(a)(1) and § 125.291.
- (4) Pilots may plan to use any instrument approach authorized for use with WAAS avionics at a required alternate if the aircraft is equipped with GPS WAAS equipment certified in accordance with TSO C-145a/C-146a. However, when using WAAS at an alternate airport, flight planning must be based on flying the RNAV (GPS) lateral navigation (LNAV) minima line, or minima on a GPS approach procedure, or conventional approach procedure with "or GPS" in the title. Upon arrival at an alternate, when the WAAS navigation system indicates that LNAV/vertical navigation (VNAV) or localizer performance with vertical guidance (LPV) service is available, then vertical guidance may be used to

complete the approach using the displayed level of service. The FAA has begun removing the ANA (Alternate Minimums Not Authorized) symbol from select RNAV (GPS) and GPS approach procedures so they may be used by approach approved WAAS receivers at alternate airports. Some approach procedures will still require the ANA for other reasons (e.g., no weather reporting), so it cannot be removed from all procedures. Since every procedure must be individually evaluated, removal of the ANA from RNAV (GPS) and GPS procedures will take some time.

- (5) Regarding application for approval to conduct GPS and/or GPS WAAS IFR operations:
- (a) The operator must apply in accordance with FAA Order 8400.10, Volume 3, Chapter 9, Proving and Validation Tests; revise its manuals, procedures, and checklists; and alter the flight training curriculums to include segments on GPS operations.
- (b) The discussion in the following paragraphs provides specific direction and guidance related to GPS/GPS WAAS and is to be used in conjunction with existing area/long range navigation guidance and instrument approach guidance contained in FAA Order 8400.10, Volume 4, Chapter 1, Air Navigation, Communications, and Surveillance. These conditions must be specified in the operator's authorizations.
- (c) The application must also provide documentation which validates approval of the installed GPS airborne receiver in accordance with current editions of Advisory Circular (AC) 20-138, Airworthiness Approval of Global Navigation Satellite System (GNSS) Equipment; and AC 20-130, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors. When it has been established that the airborne system has been certified for the appropriate GPS IFR operations, the following criteria should be used to determine the operational suitability of airborne systems for GPS/GPS WAAS IFR operations in flight operations.
- (d) The operator must ensure that the equipment is properly installed and maintained. No special requirements, other than the standard practices currently applicable to navigation or landing systems, have been identified as unique to GPS/GPS WAAS; e.g., Airworthiness Directives, Service Bulletins, etc.
- (e) The operator's manuals, policies, and procedures as described in FAA Order 8400.10, Volume 3, Chapter 15, Manuals, Procedures, and Checklists, must incorporate the manufacturer's instructions for continuing airworthiness (ICA) of the applicable GPS system.
- (f) Operators should revise their minimum equipment list (MEL) and operations and maintenance procedures to incorporate the installed GPS/GPS WAAS equipment.
- (g) Operators that conduct operations under parts 121 and 135 must ensure that service difficulties are reported in accordance with approved procedures under parts 121 and 135. Operators conducting operations under part 125 must include GPS service difficulty reporting procedures in the manual required by part 125, § 125.73(f).
- (h) The applicant must document the proposed pilot training and qualification program. This program must at least address the following training and qualification requirements:
- I. Crew training and qualification for GPS instrument approach operations should be consistent with the qualifications required for the use of ILS, VHF omni-directional range station/distance measuring equipment (VOR/DME), RNAV, and multi-sensor RNAV FMS in FAA Order 8400.10, Volume 3, Chapter 2, Training Programs and Airman Qualifications; AC 120-53, Crew Qualification and

Pilot Type Rating Requirements for Transport Category Aircraft Operated under FAR Part 121; 14 CFR parts 61, 91, 121, 125, 129, 135; and Advanced Qualification Program requirements, if applicable. Although these standards do not specifically address GPS/GPS WAAS systems, the principles are equivalent and these criteria can be used to evaluate crew knowledge, procedures, checking, and recency of experience until other criteria are available. No special crew qualification requirements, other than those necessary for RNAV and ILS instrument approach qualification are currently specified for GPS/GPS WAAS operations.

- 2. Ground training must assure that each flight crewmember has the knowledge required for the GPS/GPS WAAS procedures to be flown. Operators must successfully complete the approved (for parts 91 subpart k, 121, and 135 operators) training curriculum segment for GPS/GPS WAAS operations, as applicable. The ground training should include at least the following subjects:
 - The principals of GPS and/or GPS WAAS, as applicable, navigation;
 - · Hardware operation and integration with other navigation equipment;
 - · Software use including updating;
 - · Human factors issues, e.g., displays, charts, and approach plates;
 - · The limitations of the GPS/GPS WAAS, as applicable, equipment; and
 - The specific operating techniques and procedures to be used with the applicable GPS/GPS WAAS equipment, including maintenance and dispatch procedures, and the contents of the operator's authorizations.
- (i) Initial qualification, recurrent qualification, and re-qualification flight training must assure that each flight crewmember has the skills and abilities necessary to safely conduct the proposed operations. Flight crewmembers must successfully complete that operator's approved (for parts 121, 135, and 91 subpart K operators) flight training program for GPS/GPS WAAS. Operators conducting operations under part 125 (including those conducting operations under a LODA) must show they have completed the required training for the applicable equipment.
- (j) The operator must provide written procedures which are specific for its GPS and/or GPS WAAS operations, as applicable. The procedures must be consistent with manufacturer's recommended procedures for the use of the installed GPS/GPS WAAS equipment.
- (k) The operator must provide a validation program that ensures the GPS/GPS WAAS airborne system is operationally accurate and reliable.
- (1) The operator must incorporate into its maintenance program the GPS/GPS WAAS manufacturer's requirements for maintenance and ICAs.
- D. Barometric Vertical Navigation (baro-VNAV). Approach systems utilizing baro-VNAV may be used to fly APVs to the LNAV/VNAV line of minimums. The use of baro-VNAV to fly APVs may be authorized for all applicable certificate holders and operators in accordance with the guidance in Order 8400.10, vol. 4, ch. 2, section 4, paragraph 551E(1) and paragraph 555C.
- (1) Air Carrier Aircraft/Commercial Operator Approval. Once an operator that conducts operations under part 121, 125, 129, 135, or part 91 subpart K, has established the aircraft system eligibility, the flightcrew training and checking requirements, and has revised the training, maintenance,

and operations manuals, as applicable; the POI may give approval using this RNAV equipment to fly to the LNAV/VNAV DA as shown on the published IAPs.

- (2) To authorize approach procedures with vertical guidance, select "RNAV (GPS)" (for part 97 approaches) or "RNAV (GNSS)" (for foreign approaches) for insertion into column two of the OpSpec/MSpec/LOA C052 template.
- E. Precision Runway Monitoring (PRM). The FAA began the Multiple Parallel Approach Program to research whether ILS approaches to parallel runways would improve capacity. The objective was to achieve improvements in airport arrival rates through the conduct of simultaneous closely spaced-parallel approaches. That objective is being met using PRM.
- (1) ILS/PRM and Localizer-Type Directional Aid (LDA)/PRM Approaches. Where parallel runway centerlines are 4,300 feet apart or less, but no less than 3,000 feet, simultaneous ILS approaches may be conducted. Similarly, where parallel runway centerlines are 3,000 feet apart or less, but no less than 750 feet, simultaneous offset instrument approaches (SOIA) may be conducted with ILS approaches. Those approaches are labeled "ILS/PRM" and "LDA/PRM," respectively, on instrument approach charts. Air Traffic Control (ATC) provides an air traffic controller using special PRM radar during these approaches. That controller is known as the final monitor controller.
- (2) The Breakout Maneuver. Working with industry, the FAA conducted extensive analysis of simulation data and determined that the implementation of PRM and SOIA approach operations to closely spaced parallel runways requires additional crew training. The primary focus of this training is to raise each pilot's situational awareness in ILS/PRM and LDA/PRM operations. The breakout maneuver must be flown manually.
- (a) Traffic Alert. One important element of the additional training is the pilot's understanding of the difference between a normal missed approach initiated by a pilot, and a breakout initiated by a PRM final monitor controller. It must be clear to flightcrews that the words "Traffic Alert," when used by the final monitor controller, signal critical instructions that the pilot must act on promptly to preserve adequate separation from an airplane straying into the adjoining approach path.
- (b) ATC Breakout Maneuver Command to Turn and/or Descend, Climb, or Maintain Altitude. The flightcrew must immediately follow the final monitor controller's vertical (climb/descend/maintain altitude) and horizontal (turn) commands. If the flightcrew is operating the Traffic Alert and Collision Avoidance System (TCAS) in the traffic advisory (TA)/resolution advisory (RA) mode and receives a TCAS RA at any time while following the final monitor controller's command, the flightcrew will simultaneously continue to turn to the controller's assigned heading and follow the vertical guidance provided by the TCAS RA.
- (c) Time-to-Turn Standard. Regardless of airplane type, tests and data analysis revealed that pilots normally passed through an angle of bank of at least 3 degrees while rolling into a breakout turn, within 10 seconds of receiving a breakout command. (Bank angles of between 20 and 30 degrees were normally achieved during the breakout.) The operator must show that its pilots can readily meets this time-to-initiate-turn standard prior to the POI authorizing ILS/PRM or LDA/PRM approaches in OpSpec/MSpec/LOA C052. Flightcrews are required to manually fly the breakout maneuver unless otherwise approved by the Air Transportation Division, AFS-200 (AFS-200 must have Flight Technologies and Procedures Division, AFS-400 concurrence to approve breakout in auto modes). The air carrier should demonstrate its ability to meet this standard by having representative pilots perform the breakout maneuver while the POI or the POI's designated representative observes. The demonstration should conform to procedures contained in the air carrier's approved operating manual for its flightcrews. The commercial operator should submit procedures to its POI for this authorization.

- NOTE: In a breakout, ATC will never command a descent below the applicable minimum vector altitude (MVA), thus assuring that no flight will be commanded to descend below 1,000 feet above the highest obstacle during a breakout.
- (3) ILS/PRM, LDA/PRM, and the Use of TCAS. TCAS may be operated in TA/RA mode while executing ILS/PRM or LDA/PRM approaches. However, when conducting these operations, pilots must understand that the final monitor controller's instruction to turn is the primary means for ensuring safe separation from another airplane. Pilots must bear in mind that TCAS does not provide separation in the horizontal plane; TCAS accomplishes separation by commands solely in the vertical plane. Therefore, during final approach only the final monitor controller has the capability to command a turn for lateral separation. Flightcrews are expected to follow any ATC instruction to turn.
- (a) ATC Command to Turn with TCAS RA. In the unlikely event that a flightcrew should simultaneously receive a final monitor controller's command to turn and a TCAS RA, the flightcrew must follow both the final monitor controller's turn command and the TCAS RA's climb or descent command.
- (b) TCAS RA Alone. In the extremely unlikely event that an RA occurs without a concurrent breakout instruction from the final monitor controller, the pilot should follow the RA and advise the controller of the action taken as soon as possible. In this instance, it is likely that a breakout command would follow.
- (c) TCAS Not Required. An operative TCAS is not required to conduct ILS/PRM or LDA/PRM approaches.
- (4) Pilot Training. See Order 8400.10, vol. 4, ch. 2, sec. 4, par 555C, for information on pilot training required prior to authorizing PRM approaches.
- (5) ILS/PRM and LDA/PRM Authorizations. U.S. or foreign operators will be authorized ILS/PRM and/or LDA/PRM approaches in the OpSpec/MSpec/LOA C052 templates. Definitions of ILS/PRM and LDA/PRM have been added to the A002 template.

APPENDIX 2. SAMPLE OPSPEC/MSPEC/LOA C052—BASIC INSTRUMENT APPROACH PROCEDURE AUTHORIZATIONS—ALL AIRPORTS

a. The certificate holder/program manager/operator is authorized to conduct the following types of instrument approach procedures and shall not conduct any other types.

Table 1 - Instrument Approach Procedures

Instrument Approach Procedures (Other Than ILS & MLS): Nonprecision Approaches Without Vertical Guidance	Instrument Approach Procedures (Other Than ILS & MLS): Approaches With Vertical Guidance (APV)	Instrument Approach Procedures: Precision Approach Procedures (ILS, MLS, & GLS)
" or GPS"	RNAV (GPS)	ILS
GPS	RNAV (GNSS) (foreign)	*RNAV ILS
RNAV (GPS)		
RNAV (GNSS) (foreign)		000

b. Conditions and Limitations.

- (1) All the approaches approved by this operations specification must be published in accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 97 or the foreign State authority.
- (2) Approach procedures listed in column I in the Table above must be trained and conducted in accordance with approved procedures that ensure descent below minimum descent altitude (MDA) will not occur unless the required visual references for continuing the approach are present.
- (3) Approach procedures listed in column 2 in the Table above authorize the certificate holder to conduct instrument approach procedures with vertical guidance (APVs) and a published decision altitude DA(H). (OpSpec/MSpec/LOA C073 is issued to authorize nonprecision approaches using VNAV and DA(H) in lieu of MDA(H)).
- (4) Authorization to fly the approach procedures listed in Table 1 above does not constitute authorization to conduct any of the following operations:
- RNAV (RNP) approaches, whether they are published in accordance with 14 CFR part 97 or whether they are foreign (RNP-like) approaches that have an RNP line of minima,
 - · Any approach with an RF (radius to a fix) leg segment, or
 - · Any approach that requires an RNP missed approach.

(These part 97 approaches or flight operations may only be authorized by the issuance of a nonstandard OpSpec/MSpec/LOA C384; "RNP-Like" foreign procedures may be authorized only by the issuance of nonstandard OpSpec/MSpec/LOA C358)

- c. Nonprecision Approach Procedures Using GPS or GPS Wide Area Augmentation System (WAAS). The certificate holder/program manager/operator is authorized to conduct GPS and/or GPS WAAS instrument approach operations using the approved GPS and/or GPS WAAS equipment listed in paragraph/LOA B034, if ".... or GPS", GPS, or RNAV (GPS) or RNAV (GNSS) is listed in Table I above. This authorization to conduct approaches using GPS and/or GPS WAAS is subject to the following limitations and conditions:
- (1) The airborne GPS and/or GPS WAAS navigation equipment to be used must be approved for instrument flight rules (IFR) operations and must contain current navigation data.
- (2) Both the GPS constellation and the required airborne equipment must be providing the levels of availability, accuracy, continuity of function, and integrity required for the operation.
- (3) For the certificate holder/program manager/operator using aircraft other than those equipped with a multisensor flight management system (FMS), the flightcrew must have successfully completed the operator's/certificate holder's/program manager's approved (part 125 and 125 M operators do not have an approved training program but

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are required to complete the applicable training for the authorization) training program curriculum segments for GPS and/or GPS WAAS operations, as applicable, and the pilot-in-command and the second-in-command must be checked for competency by an authorized check airman or FAA inspector in instrument approach operations using each aircraft type and GPS combination. (Single pilot operators conducting operations under 14 CFR part 135 who are issued OpSpec A040 and who do not have an approved training program must be checked for competency by an FAA inspector in instrument approach operations using GPS/GPS WAAS, as applicable, in each aircraft type and GPS combination).

- (4) During the initial 6 months of operation with a particular aircraft type and GPS combination (other than aircraft equipped with a multi-sensor FMS) the certificate holder/program manager/operator shall not use IFR approach and landing minimums lower than 200 feet and 1/2 statute mile above the lowest authorized MDA and visibility/runway visual range (RVR) minimums using GPS or GPS WAAS, as applicable.
- (5) Alternate Airport GPS WAAS Usage. Pilots may plan to use any instrument approach authorized for use with GPS WAAS avionics at a required alternate if the aircraft is equipped with such equipment certified in accordance with Technical Standard Order (TSO) C-145a/C-146a. This flight planning, however, must be based on flying the RNAV (GPS) (or RNAV (GNSS) for foreign approaches) LNAV minima line, or the minima on a GPS approach procedure or conventional approach procedure with "... or GPS" in the title. Upon arrival at an alternate, if the GPS WAAS navigation system indicates that LNAV/VNAV or LPV service is available, vertical guidance may be used to complete the approach using the displayed level of service.

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