ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8260.43

9/20/96

SUBJ: PRIORITIZATION FOR DEVELOPMENT OF WIDE AREA AUGMENTATION SYSTEM GLOBAL POSITIONING SYSTEM INSTRUMENT APPROACH PROCEDURES

1. PURPOSE. This order provides guidance and criteria for management of Federal Aviation Administration (FAA) resources in prioritization of precision and nonprecision Global Positioning System (GPS) Wide Area Augmentation System (WAAS) instrument approach procedures in the National Airspace System (NAS).

2. DISTRIBUTION. This order is distributed to the branch level in the services of Flight Standards, and Airway Facilities; and in the offices of Airport Safety and Standards, Air Traffic Airspace Management Program, Communications, Navigation, and Surveillance Systems, and Aviation System Standards; to the National Flight Procedures Office; to the Regulatory Standards and Compliance Division at the Mike Monroney Aeronautical Center; to the branch level in the regional Flight Standards, Airway Facilities, Airports, and Air Traffic divisions.

3. BACKGROUND. The GPS system will be developed in a manner most effective and efficient in terms of FAA and user resources. Instrument procedures using traditional navigation aids have been provided for all-weather operations to and from runways at all of the nation's airports serving scheduled air carrier operations. Instrument approach procedures and the supporting equipment have also been provided for many runways at busy general aviation airports. The introduction of GPS navigation brought with it the opportunity to establish instrument operating procedures at locations that could not previously justify the required resources or meet specific siting criteria for the navigation aid (NAVAID) proposed.

4. DEFINITIONS.

a. Aviation System Standards (AVN). The FAA office directly responsible for the development and maintenance of instrument flight procedures throughout the United States and its territories. AVN maintains data required to develop instrument procedures.

b. Flight Procedures Office (FPO). An office within the National Flight Procedures Office, Flight Procedures Development Branch, that is responsible for approval or disapproval of requests for Title 14 of the Code of Federal Regulations (14 CFR) part 97 instrument flight procedures. The FPO is generally co-located with the regional Flight Standards Division.

c. Global Positioning System (GPS). A worldwide position, velocity, and time determination system. It includes a constellation of 24 satellites, user receivers, and system integrity monitors.

d. Instrument Approach Procedure (IAP). Standardized routings, maneuvering areas, flight altitudes, and visibility minimums specified for approach operations under instrument flight rules.

e. National Flight Procedures Office (NFPO), AVN-100. The FAA office responsible for development of all instrument procedures.

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f. National Ocean Service (NOS). The Federal agency responsible for the charting of part 97 civil instrument approach procedures.

g. Operational Advantage. An improvement which benefits the users of an instrument procedure. Achievement of lower minimums or authorization for a straight in approach with no derogation of safety are examples of an operational advantage.

h. Phase I GPS Survey. Survey and establishment of benchmarks on airports using the World Geodetic System of 1984 as the coordinate system.

i. Phase II GPS Survey. Survey of runway and airport data to include runway ends, thresholds, and centerlines.

j. Phase III GPS Survey. Survey of obstructions and obstacle clearance surfaces in the vicinity of an airport.

k. Waypoints. Predetermined geographical positions, specified in latitude and longitude, used in defining GPS/WAAS instrument approach procedures and, when applicable, elevation data will also be specified.

l. Wide Area Augmentation System (WAAS). An augmentation to GPS which provides a signal in space to support en route and precision/nonprecision approach navigation. This information is relayed to users through geostationary satellites to increase the integrity, reliability, and accuracy of the basic GPS signal.

5. CRITERIA FACTORS. Consider the following items when prioritizing landing areas selected for GPS instrument procedure development. These factors are not all-inclusive, nor are they established with any order of precedence.

a. Sites Having Safety Benefits.

(1) Improve final approach course alignment with the landing runway.

(2) Simplify complex IAP's.

(3) Address "black hole" IAP's (i.e., no visual cues to terrain or surface definition) or other problems resulting from conditions in the area surrounding an airport.

(4) Resolve longstanding Notice to Airman issues.

(5) Helicopter approaches supporting Emergency Medical Service (EMS) operations.

b. Sites Having System Enhancements.

(1) Runways at airports that have sufficient demand to justify an instrument landing system (ILS), but have been precluded from installation because of siting limitations.

(2) Runways that were previously approved for an ILS, but remain unfunded.

(3) Runways that are forecasted to have sufficient demand within 5 years to justify an ILS.

(4) Runways where lower minimums can be achieved with a GPS based IAP or by positive course guidance in the missed approach segment.

c. Airports that provide the best cost benefits per the latest edition of Order 7031.2, Airway Planning Standard Number One Terminal Air Navigation Facilities and ATC Services, or other operational advantages.

d. Runways identified by Air Traffic Service as offering resolution to a capacity problem providing other operational advantage:

(1) Reliever airport IAP's; i.e., reduce demand at primary airports by providing precision approaches at satellite airports.

(2) Minimize taxi time or ground congestion.

e. At least one runway at airports without an IAP where requested by an air carrier/commuter, business, or government agency.

f. Requests from State aviation representatives including necessary justification.

g. Requests from Department of Defense agencies in accordance with existing agreements.

h. At least one runway at other public-use airports that does not have a facility/NAVAID's available.

6. RESPONSIBILITIES. The following guidance outlines priority establishment for GPS IAP development.

a. Each region will establish a GPS Implementation Working Group (IWG). The appropriate FPO will be the lead with representatives of the appropriate Flight Standards, Airports, Air Traffic, and Airways Facilities branches as participants. Each IWG is responsible for the formation of a regional procedure development priority listing, by State, airport, and runway. These lists will, in turn, provide an effective strategy for implementing a national system of new IAP's and GPS survey priorities.

b. The Office of Airport Safety and Standards, Design and Operation Criteria Division, AAS-100, will provide each IWG with a listing of airports and runways, by State, that meet the minimum criteria for an IAP. This listing will include data from the National Flight Data Center (NFDC) data base on based aircraft and estimated annual operations.

c. The Air Traffic Airspace Management Program, Aeronautical Information Division, ATA-100, will provide each IWG with a listing of locations forecast to receive an NOS survey under the Obstruction Chart (OC) Program. ATA-100 will also provide a listing of locations where Phase I and II GPS surveys have been completed. The IWG will review the OC schedule and identify specific airports and runways that require GPS WAAS surveys. The GPS survey lists will also be reviewed and a separate survey priority "hot list" will be prepared to identify those airports and runways that should have a WAAS survey completed within the next calendar year but are not on the aforementioned lists. This will enable the NOS to complete all survey requirements during one onsite visit.

d. Using the data noted in subparagraphs b and c, the IWG will develop the initial priority list, as viewed by the FAA, and forward it to the respective State aviation representatives.

e. The State aviation representatives may review the FAA priority list and remaining eligible airports and recommend changes as they deem necessary. In preparing a recommendation for priority for establishment of IAP's, the State representatives will confirm the desire or willingness of the airport operator to have an IAP established, the runway end for the procedure, and the commitment of the airport operator to meet the minimum approach surface clearances, airport configuration, marking, and lighting standards for the ceiling and visibility minimums sought. (Airport requirements for instrument approaches are described in Advisory Circular 150/5300-13, Airport Design, Table A-16, and Order 8260.3B, United States Standard For Terminal Instrument Procedures (TERPS), paragraphs 120 and 122.)

f. For those airports where the need is not sufficient to justify a priority that would result in the establishment of an IAP within 2 years, the proponent for the approach may facilitate development of the IAP by providing the IWG with acceptable survey data required by FAA.

g. Upon receipt of the recommendations of State aviation representatives, the IWG will finalize the State priority lists for IAP development and forward them to AVN-100. AVN-100 wil consolidate the regional priorities into a U.S. master list which will be used by the NFPO to accomplish IAP development.

7. SURVEYS.

a. The IWG will also forward a copy of each IWG procedure development priority list and the survey "hot list" to ATA-100. ATA-100 will then forward these lists to the National Geodetic Survey for consideration in establishing annual survey schedules.

b. NOS will forward survey data to the NFDC, ATA-110, for entry into the National Data Base and to the Automation Technology Branch, AVN-22, for entry into the Aircraft Management Information System. Once all data has been reviewed and entered, AVN-22 will advise the appropriate FPO that surveys are completed and data is available. The FPO will affirm that all necessary data is available for procedure development before initiating procedure requests.

8. SCHEDULE. The IWG's will convene at least annually with sufficient lead time to ensure regional GPS survey requirements are included in the region's annual OC request. Interim changes may be made to priority lists as circumstances dictate.

9. INFORMATION UPDATE. Any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this order should be noted on FAA Form 1320-19, Directive Feedback Information. For your convenience, this form is included at the end of this order. Your comments should be forwarded to the originating office (Attn: Directives Management Officer) for consideration. If an interpretation is needed immediately, you may ca the originating office for guidance. However, you should also use the FAA Form 1320-19 as a followup to the verbal conversation.

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