

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 or 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** will 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 **1320-49**, 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 call the originating office for guidance. However, you should also use the FAA Form **1320-49** as a followup to the verbal conversation.



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U.S. Department
of Transportation

**Federal Aviation
Administration**

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order _____

To: Directive Management Officer, _____

(Please check all appropriate line items)

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows: *(attach separate sheet if necessary)*

In a future change to this directive, please include coverage on the following subject *(briefly describe what you want added):*

Other comments:

I would like to discuss the above. Please contact me.

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