

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Parts 1, 91, 121, 125, and 135**

[Docket No. FAA-2003-14449; Notice No. 03-03]

RIN 2120-AH78

Enhanced Flight Vision Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA is proposing to revise its regulations for takeoff and landing under instrument flight rules (IFR) to allow for the use of FAA-certified enhanced flight vision systems (EFVS) that would enable the pilot to meet enhanced flight visibility requirements. The action would allow the use of new technology. This NPRM also contains proposed EFVS-related changes to the FAA's previously published Area Navigation (RNAV) NPRM, which was published on December 17, 2002.

DATES: Send your comments on or before March 27, 2003.

ADDRESSES: Address your comments to the Docket Management System, U.S. Department of Transportation, Room Plaza 401, 400 Seventh Street, SW., Washington, DC 20590-0001. You must identify the docket number FAA-2003-14449 at the beginning of your comments, and you should submit two copies. If you wish to receive confirmation that the FAA has received your comments, include a self-addressed, stamped postcard on which the docket number appears.

You may also submit comments through the Internet to <http://dms.dot.gov>. You may review the public docket containing comments to these proposed regulations in person in the Dockets Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Dockets Office is on the plaza level of the Nassif Building at the Department of Transportation at the above address. Also, you may review public dockets on the Internet at <http://dms.dot.gov>.

FOR FURTHER INFORMATION CONTACT: Les Smith, Flight Technologies and Procedures Division, Flight Standards Service, AFS-400, Federal Aviation Administration, 800 Independence Ave. SW., Washington, DC 20591; telephone: (202) 385-4586.

SUPPLEMENTARY INFORMATION:**Comments Invited**

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The FAA also invites comments on the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA asks that you send two copies of written comments.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also review the docket using the Internet at the web address in the **ADDRESSES** section.

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the **Federal Register** published on April 11, 2002 (65 FR 19477-19478) or you may visit <http://dms.dot.gov>.

Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed late if it is possible to do so without incurring expense or delay. The FAA may change this proposal in light of comments.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. The FAA will stamp the date on the postcard and mail it to you.

Availability of Rulemaking Documents

You can get an electronic copy of this document using the Internet by:

- (1) Searching the Department of Transportation's electronic Docket Management System (DMS) Web page (<http://dms.dot.gov/search>);
- (2) Visiting the Office of Rulemaking's Web page at <http://www.faa.gov/avr/armhome.htm>; or
- (3) Accessing the Government Printing Office's Web page at <http://www.gpo.gov>.

www.access.gpo.gov/su_docs/aces/aces140.html.

You can also get a copy by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling 202-267-9680. Be sure to identify the docket number, or notice number with amendment number, of this rulemaking.

List of Abbreviations Used in This Document

APV—Approach procedure with vertical guidance
 ASR—Airport surveillance radar
 DA—Decision altitude
 DH—Decision height
 EFVS—Enhanced flight vision system
 HUD—Head-up display
 IFR—Instrument flight rules
 ILS—Instrument landing system
 MDA—Minimum descent altitude
 PAR—Precision approach radar
 RNAV—Area navigation

Background

Section 91.175 of 14 CFR prescribes flight visibility requirements when operating under instrument flight rules (IFR) using natural vision, to identify the approach lights and runway environment. These procedures were developed and improved over the years to provide for a high level of safety when operating an aircraft during reduced visibility conditions; however the current rules on instrument approach procedures do not allow for the use of new technologies such as enhanced flight vision systems (EFVS), which use imaging-sensor technology that provides a real-time image of the external topography, or synthetic vision systems, which uses a database computer-generated image of the external topography. Nor do the present rules define new terms such as "enhanced flight visibility" or "synthetic vision" as they relate to flight operations.

EFVS—As mentioned above, an EFVS uses imaging-sensor technologies that provide a real-time visual image of the external scene topography. During some reduced visibility conditions, an EFVS can display imagery that may significantly improve the pilot's capability to detect objects, such as approach lights and visual references of the runway environment, that may not otherwise be visible. This type of technology would be allowed (but not required) under this NPRM.

Synthetic vision—By contrast, a synthetic vision image is a computer-generated image of the external scene topography from the perspective of the