

vision image of the external scene topography to the flight crew.

\* \* \* \* \*

3. Section 1.2 is amended by adding the following abbreviation in alphabetical order to read as follows:

#### § 1.2 Abbreviations and symbols.

\* \* \* \* \*

EFVS means enhanced flight vision system

\* \* \* \* \*

### PART 91—GENERAL OPERATING AND FLIGHT RULES

4. The authority citation for part 91 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 1155, 40103, 40113, 40120, 44101, 44111, 44701, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506–46507, 47122, 47508, 47528–47531, articles 12 and 29 of the Convention on International Civil Aviation (61 Stat. 1180).

5. Amend § 91.175 by revising paragraphs (c) introductory text, as proposed at 67 FR 77341; Dec. 17, 2002, (d), and (e)(1) introductory text, and by adding paragraphs (l) and (m) to read as follows:

#### § 91.175 Takeoff and landing under IFR.

\* \* \* \* \*

(c) *Operation below DA, DH or MDA.* Except as provided in paragraph (l) of this section, where a DA, DH, or MDA is applicable, no pilot may operate an aircraft, except a military aircraft of the United States, at any airport below the authorized MDA or continue an approach below the authorized DA/DH unless—

\* \* \* \* \*

(d) *Landing.* No pilot operating an aircraft, except a military aircraft of the United States, may land that aircraft when—

(1) For operations conducted under paragraph (l) of this section, the requirements of paragraph (l)(4) of this section are not met; or

(2) For all other part 91 operations and parts 121, 125, 129, and 135 operations, the flight visibility is less than the visibility prescribed in the standard instrument approach procedure being used.

(e) \* \* \*

(1) Whenever operating an aircraft pursuant to paragraph (c) or (l) of this section and the requirements of that paragraph are not met at either of the following times:

\* \* \* \* \*

(l) *Approach to straight-in landing operations below DA, DH, or MDA using an enhanced flight vision system (EFVS).* No pilot operating under this

section or §§ 121.651, 125.381, and 135.225 of this chapter may operate an aircraft at any airport below the authorized MDA or continue an approach below the authorized DA or DH and land unless—

(1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and, for operations conducted under part 121 or part 135 of this chapter, the descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;

(2) The pilot determines that the enhanced flight visibility observed by use of a certified enhanced flight vision system is not less than the visibility prescribed in the standard instrument approach procedure being used;

(3) The following visual references for the intended runway are distinctly visible and identifiable to the pilot using the enhanced flight vision system:

(i) The approach light system (if installed); or

(ii) The runway threshold and the touchdown zone;

(4) At 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the flight visibility must be sufficient for the following to be distinctly visible and identifiable to the pilot without reliance on the enhanced flight vision system to continue to a landing:

(i) The lights or markings of the threshold; or

(ii) The lights or markings of the touchdown zone;

(5) The pilot(s) is qualified to use an EFVS as follows—

(i) For parts 119 and 125 certificate holders, the applicable training, testing and qualification provisions of parts 121, 125, and 135 of this chapter;

(ii) For foreign persons, in accordance with the requirements of the civil aviation authority of the State of the operator; or

(iii) For persons conducting any other operation, in accordance with the applicable qualification and proficiency requirements of part 61 of this chapter and the operating limitations specified in the approved Airplane or Rotorcraft Flight Manual;

(6) For parts 119 and 125 certificate holders, and part 129 operations specifications holders, their operations specifications authorize use of EFVS; and

(7) The aircraft is equipped with, and the pilot uses, an enhanced flight vision system, the display of which is suitable for maneuvering the aircraft and has

either an FAA type design approval or, for a foreign-registered aircraft, the EFVS is of a type design approved by the United States and complies with all of the requirements of this chapter that would be applicable to that aircraft were it registered in the United States, including the requirements for a U.S. standard airworthiness certificate.

(m) For purposes of this section, “enhanced flight vision system” (EFVS) is an installed airborne system comprised of the following features and characteristics:

(1) An electronic means to provide a display of the forward external scene topography (natural or manmade features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors, such as a forward-looking infrared, millimeter wave radiometry, millimeter wave radar, and low-light level image intensifying;

(2) The EFVS sensor imagery and aircraft flight symbology (*i.e.* at least airspeed, vertical speed, aircraft attitude, heading, altitude) are presented on a head-up display so that they are clearly visible to the pilot flying in his or her normal position and line of vision and looking forward along the flight path;

(3) The displayed imagery and aircraft flight symbology does not adversely obscure the pilot’s outside view or field of view through the cockpit window;

(4) The EFVS includes the display element, sensors, computers and power supplies, indications, and controls. It may receive inputs from an airborne navigation system or flight guidance system; and

(5) The display characteristics and dynamics are suitable for manual control of the aircraft.

### PART 121—OPERATING REQUIREMENTS: DOMESTIC FLAG, AND SUPPLEMENTAL OPERATIONS

6. The authority citation for part 121 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 40119, 41706, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 44901, 44903–44904, 44912, 46105.

7. Amend § 121.651 by revising paragraphs (c) introductory text and (d) introductory text, as proposed at 67 FR 77345; Dec. 17, 2002, to read as follows:

#### § 121.651 Takeoff and landing weather minimums: IFR: All certificate holders.

\* \* \* \* \*

(c) If a pilot has begun the final approach segment of an instrument approach procedure in accordance with paragraph (b) of this section, and after