

operations conducted under proposed paragraph (l), the requirements of proposed paragraph (l)(4) are not met. This would mean that, when the aircraft is operated from 100 feet above the touchdown zone elevation to the runway surface, without reliance on an EFVS, there would have to be sufficient flight visibility for the lights or markings of the threshold or the lights or markings of the touchdown zone to be distinctly visible and identifiable to the pilot to land the aircraft. For all other operations that are not conducted under § 91.175(l), the pilot could not land the aircraft if the flight visibility is less than the visibility prescribed in the standard instrument approach procedure being used.

Paragraph (e)—For the missed approach procedures in § 91.175(e), the FAA is proposing to revise the introduction to (e)(1) to add a reference to proposed paragraph (l). The operator of the aircraft first would have to determine whether the aircraft would be operated in accordance with § 91.175(c) (for flight visibility using natural vision) or with § 91.175(l) (using an EFVS). Once that decision is made, different requirements determine when a missed approach must be executed. If a pilot chose to operate under § 91.175(c) without an EFVS, he or she would follow existing rules for missed approaches. This proposed rule would not change the existing requirements under § 91.175(c).

If, on the other hand, the pilot chose to use an EFVS in accordance with § 91.175(l), the missed approach procedures remain the same as those published on the approach charts. If the pilot could not meet the requirements of § 91.175(l)(1) through (4), a missed approach must be executed. The requirements of § 91.175(l)(1) through (4) differ from the requirements of § 91.175(c)(1) through (3); however, these requirements provide a parallel to the decision-making process in § 91.175(c). For an operation conducted under § 91.175(l) with an EFVS, between the DA, DH, or MDA to 100 feet above the touchdown zone elevation of the runway of intended landing, an appropriate missed approach procedure would have to be immediately executed if the pilot were unable to continuously maintain the aircraft in a position from which a descent to a landing on the intended runway could be made at a normal rate of descent using normal maneuvers. For an operation conducted under part 121 or part 135, an appropriate missed approach procedure would have to be immediately executed if the pilot were unable to control the descent rate of the aircraft to allow

touchdown to occur within the touchdown zone of the runway of intended landing. Under (l)(2), for all operations, below DA, DH, or MDA an appropriate missed approach procedure would have to be immediately executed when the pilot determined that the enhanced flight visibility observed by use of an EFVS is less than the visibility prescribed in the standard instrument approach procedure being used. Also if the visual references specified under (l)(3) were not distinctly visible and identifiable to the pilot in the EFVS display, a missed approach would have to be executed. Under (l)(4), for operations, between 100 feet above the touchdown zone elevation of the runway of intended landing and any lower altitude, the pilot would have to immediately execute a missed approach if, without reliance on an EFVS, there were not sufficient flight visibility for either the lights or markings of the threshold or the lights or markings of the touchdown zone to be distinctly visible and identifiable to the pilot.

Paragraph (l)—Paragraph (l) would be added to § 91.175 to describe the requirements for approach to straight-in landing operations below DA, DH, or MDA using an EFVS. The proposed rule would apply to pilots operating under parts 91, 121, 125, 129 and 135, and would require that parts 119 and 125 certificate holders, and part 129 operations specifications holders, be authorized to use an EFVS in their operations specifications.

Paragraph (l)(1) would state that the aircraft must be continuously in a position from which a descent, at normal rate using normal maneuvers, can be made. The proposed paragraph would also state that the descent rate for parts 121 and 135 operations would allow touchdown to occur within the touchdown zone of the runway of intended landing.

Proposed paragraph (l)(2) would provide an enhanced flight visibility requirement that would be equivalent to §§ 91.175(c)(2) and 121.651(c)(2) and (d)(2), except that the pilot could use an EFVS to determine “enhanced flight visibility” as compared to “flight visibility” with natural vision.

Paragraph (l)(3) would specify that the approach light system (if installed) or the runway threshold and the touchdown zone would have to be distinctly visible and identifiable to the pilot in the enhanced flight vision system display at the DA, DH, or MDA.

Paragraph (l)(4) would require that, at 100 feet above the touchdown zone elevation and below, the threshold lights or markings, or the touchdown zone lights or markings, would have to

be distinctly visible and identifiable without relying on the enhanced flight vision system for the pilot to continue to a landing.

In (l)(5), the proposed rule would provide that pilots using EFVS-equipped aircraft be qualified in accordance with the applicable requirements of 14 CFR part 61 and part 121, 125, or 135, as applicable. Foreign operators would have to be qualified in accordance with their civil aviation authorities’ requirements.

In (l)(6), the proposed rule would authorize EFVS operations for parts 119 and 125 certificate holders and part 129 operations specifications holders through their operations specifications.

In (l)(7), the proposed rule would require that the aircraft be equipped with an EFVS, the display of which would have to be suitable for maneuvering the aircraft. The EFVS and display would be required to have an FAA type design approved by the United States. For foreign-registered aircraft, the EFVS and display would have to be of a type design approved by the United States and comply with all requirements as if the aircraft were registered in the United States.

Paragraph (m)—Proposed paragraph (m) would establish the characteristics and features the FAA would require when approving an EFVS. It would ensure that a pilot using an EFVS remained in his or her normal sitting position and would be looking straight ahead along the forward flight path. The EFVS would have to include a head-up display centrally located in the pilot’s primary field of view and would display the sensor imagery and the aircraft’s flight’s symbology so that the pilot’s forward vision would not be adversely obscured. Because the pilot could not rely on the EFVS at 100 feet above the touchdown zone elevation and below for purposes of identifying items in proposed (l)(4), the FAA believes it would be essential for him or her to remain in a forward-looking position and be able to focus outside the cockpit with minimal transition from using the sensor imagery display to visual flying conditions (using natural vision) without the EFVS. The display characteristics and dynamics would have to be suitable for manual control of the aircraft.

Section 121.651 Takeoff and Landing Weather Minimums: IFR: All Certificate Holders

The FAA’s Area Navigation (RNAV) NPRM published on December 17, 2002 (67 FR 77341; Dec. 17, 2002), set forth proposed amendments to the current provisions contained in § 121.651. By