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US Department of Transportation
Room Plaza 401, 400 Seventh Street SW
Washington, DC 20590-0001
United States of America

Subject: Comments NPRM - Docket FAA-2003-14449

Dear Sir,

Bombardier Aerospace is involved in the design and manufacture of business jet, regional jet and regional turboprop aircraft. Bombardier supports the proposed rule enabling operators to derive safety and operational benefits from the use of Enhanced Flight Vision systems.

Bombardier offers the following comments:

91.175 (l) (3)
This section prescribes the acquisition of visual references for the intended runway (approach light system, or runway threshold and touchdown zone) that are more restrictive than those under the existing 91.175 (c) (3) with unaided vision. The proposed wording is inconsistent with 91.175 (c) (3), and with the intended function identified in the existing FAA Special Condition for EVS. Bombardier recommends that this section be changed to:

> "(l) (3) At least one of the following visual references are distinctly visible and identifiable to the pilot using the enhanced flight vision system:
> (i) The approach light system.
> (ii) The threshold.
> (iii) The threshold markings.
> (iv) The threshold lights.
> (v) The runway end identifier lights.
> (vi) [Reserved]
> (vii) The touchdown zone or touchdown zone markings.
> (viii) The touchdown zone lights.
> (ix) The runway or runway markings.
> (x) The runway lights."

This proposal harmonizes the visual references for the intended runway with the existing 91.175 (c) (3), except that the VASI would not be an acceptable reference for a monochrome Enhanced Flight Vison System.

91.175 (l) (4)

This section prescribes that at 100 ft HAT, the pilot acquire unaided visual references for the intended runway that are more restrictive (lights / markings of threshold, or lights/markings ot the touchdown zone) than those prescribed under 91.175 (c) (3) or even CAT II requirements. Bombardier supports this requirement to increase the safety level for EFVS operations descending below DH, DA or MDA, down to 100 ft HAT.

91.175 (l) (7)

This section requires that the EFVS system on foreign aircraft be Type Approved by the FAA, and that the foreign aircraft meet the requirements for a U.S. Standard Airworthiness certificate. This proposal seems inconsistent with the provisions of existing bilateral agreements, and precludes the possibility of the FAA ever accepting an EFVS approval by another authority (i.e. Transport Canada) through the bilateral process without additional rulemaking.

The U.S. Standard Airworthiness certificate proviso in the proposed requirement would also prevent a foreign-registered aircraft equipped with an FAA-approved EFVS from conducting EVFS operations if the aircraft had, for example, non-English interior placards/markings or a metric standby altimeter, since the aircraft would not be eligible for a U.S. Standard Airworthiness certificate. This proviso reduces safety by preventing EVS operations and should be deleted.

Bombardier recommends that this section be changed to:

> "91.175 (l) (7) The aircraft is equipped with, and the pilot uses, an approved enhanced flight vision system, the display of which is suitable for maneuvering the aircraft."

91.175 (m)

This section prescribes the information required to be displayed on the HUD/EFVS display. To meet a level of safety commensurate with descent below DH, DA or MDA, down to 100 HAT, Bombardier proposes that flight path vector and flight director guidance should be added to the list of items required to be displayed on the HUD/EFVS.

91.175, 121.651, 125.381, 135.225

These sections make no provisions for the enhanced vision flight vision system to be used to meet takeoff visibility requirements. Given that the system can be used to meet flight visibility requirements during approach, it follows that some credit should be able to be derived for take-off operations below the established take-off visibility requirements.

121.651 (b) (2) and 135.225 (a) (2)
These sections are not addressed by this NPRM, and currently state:

"Except as provided by paragraph (d), no pilot may continue an approach past the final approach fix, or where a final approach fix is not used, begin the final approach segment of an instrument approach procedure -- unless the latest weather report for that airport issued by the U.S. National Weather Service, a source approved by that Service, or a source approved by the Administrator, reports the visibility to be equal to or more than the visibility minimums prescribed for that procedure."

"No pilot may begin the final approach segment of an instrument approach procedure to an airport unless the latest weather reported by the facility described in paragraph (a)(1) of this section indicates that weather conditions are at or above the authorized IFR landing minimums for that procedure."

These sections as written would not allow a Part 121 / 135 pilot to commence the approach, since the weather report from the facility would provide an unaided visibility reference that may be less than the enhanced flight visibility. A proviso should be added to these sections allowing the pilot to commence the approach when using EVS, even if the reported visibility is below the minimum.

We thank you for the opportunity to comment on this NPRM.

Regards,

Dan Burns
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Bombardier Aerospace