

**JAR NPA 25C-277**  
**DESIGN DIVE SPEED**

**COMMENT DOCUMENT**

**INTRODUCTION**

This notice proposes to amend the advisory material to be associated with JAR 25.335(b)(2) - Design Airspeeds. The proposed ACJ will define those atmospheric variations such as horizontal gusts, jetstreams and windshears, that should be taken into account in setting the minimum speed margin between  $V_C/M_C$  and  $V_D/M_D$ . This action ensures that adequate protection will continue to be provided against inadvertent speed increases due to penetration of atmospheric disturbances without unduly penalising new aeroplane designs. The proposed changes will also eliminate differences between the European Joint Airworthiness Requirements (JAR) and the Federal Aviation Regulations (FAR).

These proposals were developed in co-operation with the Federal Aviation Administration (FAA) of USA and the European, American and Canadian aviation industry through the Loads and Dynamics Harmonisation Working Group of the U.S. Aviation Rulemaking Advisory Committee (ARAC).

**JUSTIFICATION**

The proposed ACJ 25.335(b)(2) of this NPA is closely based upon the existing ACJ 25.335(b)(2). Many text changes have been introduced to improve clarity and ensure consistent interpretation. The description and severity of the atmospheric events in this NPA are unchanged. However, there are three notable changes from the current JAR advisory material.

- (1) The current ACJ asks for both cases of positive and negative horizontal shear to be considered, with the shear on the other side of the core taken as two-thirds of the primary value, but of opposite sign. This is no longer considered necessary, since past applications have shown this case always to be non-critical.
- (2) The current ACJ asks for a delay time of five seconds to be used before pilot intervention. The new proposal is for a delay time of three seconds. This smaller figure is felt to be more realistic for response to a clear cue such as an overspeed warning. Three seconds is more consistent with pilot intervention times quoted in other parts of JAR-25, but is still conservative when compared to the two second delay for corrective action following an engine failure (JAR 25.367 refers).
- (3) The new proposal specifically allows a Mach margin of .07 between  $V_C/M_C$  and  $V_D/M_D$  to be selected without further investigation. Although not specifically stated in the current requirement this interpretation has been used in the past in some certification exercises.

**DISPOSITION OF COMMENTS**

Only supportive comments were received indicating acceptance of the proposed amendments without change to the text.