



Civil Aviation Authority

SAFETY NOTICE

Number: SN-2013/010



Issued: 04 June 2013

Missed Approaches in Response to Onboard Windshear Alerts

This Safety Notice contains recommendations regarding operational safety.

Recipients must ensure that this Notice is copied to all members of their staff who need to take appropriate action or who may have an interest in the information (including any 'in-house' or contracted maintenance organisations and relevant outside contractors).

Applicability:	
Aerodromes:	Not primarily affected
Air Traffic:	All ATC
Airspace:	Not primarily affected
Airworthiness:	Not primarily affected
Flight Operations:	All Aeroplane AOC holders
Licensed/Unlicensed Personnel:	All ATCOs, All Pilots and All Approved Training Organisations

1. Introduction

- 1.1 A number of incidents have occurred which have highlighted a potential incompatibility between the pilot actions required when executing a missed approach resulting from a windshear alert generated by the onboard equipment, and the altitude to which the pilot is cleared as part of the missed approach procedure. On a number of occasions this has led to a loss of separation with other aircraft.
- 1.2 The purpose of this Safety Notice is to highlight to ATC providers and ATCOs, the procedures used by pilots when conducting a missed approach resulting from a windshear alert generated by the aircraft's onboard equipment, and the possible conflict with the missed approach procedure. Whilst this Safety Notice is primarily focused on pilot actions where onboard equipment is carried, similar pilot actions in response to windshear may be expected in non-equipped aircraft.

2. Background

- 2.1 Windshear is a sustained change in the wind velocity along the aircraft flight path, which occurs significantly faster than the aircraft's momentum can counter. Windshear can occur at any level, but it is low-level windshear which can cause problems of sufficient magnitude to affect the control of aircraft in departure or final approach phases of flight.
- 2.2 Most modern airliners carry onboard windshear detection systems, which will audibly warn the crew of the presence of windshear. Such audible alerts can be either predictive, occurring before the aircraft encounters the windshear, or reactive after penetration of the windshear.

- 2.3 Pilots will continue to fly the windshear recovery manoeuvre until the onboard system ceases to annunciate the windshear alert, and may therefore require deviation from their clearance.
- 2.4 Windshear alerts take precedence over TCAS annunciations and due to the high flight deck workload during windshear recovery manoeuvres the TCAS display may not be monitored to the same extent as during normal operations.
- 2.5 The priority of the crew during windshear recovery manoeuvres is to keep the aircraft under control whilst ensuring terrain clearance. Rates of climb during such recovery manoeuvres, which employ the use of maximum thrust, will significantly exceed those during missed approaches executed for reasons such as an occupied runway, or lack of visual contact in poor visibility. These high rates of climb, especially when associated with a missed approach which has a relatively low level-off altitude, can result in pilots exceeding their cleared level and eroding separation from other aircraft.
- 2.6 If the aircraft is in a turn when a windshear alert is generated, the crew may level the wings to maximize the climb gradient, unless a turn is required for obstacle clearance.
- 2.7 Furthermore due to high flight deck workload the reply 'Standby' in response to ATC instructions is not unusual during such events.

3. Action to be Taken

- 3.1 In the event of a pilot announcing a go around due to a windshear alert, controllers should be prepared for the aircraft to exceed the missed approach altitude. Controllers should provide enhanced traffic information as necessary and provide instructions and advice as deemed appropriate to ensure safety.
- 3.2 ATC providers should consider developing contingency arrangements for use in conditions of known windshear where pilot response to such events, combined with the interaction of traffic patterns, has the potential to lead to erosion of separation with other aircraft.
- 3.3 ATC providers should where necessary draw attention to, and include these events in TRUCE.
- 3.4 The CAA intends to conduct a review of these incidents, gather data, and develop guidance to controllers, including phraseology to be used during such events.

4. Queries

- 4.1 Any queries or further guidance required as a result of this communication should be addressed to:

Aerodrome and Air Traffic Standards Division
Civil Aviation Authority
Safety Regulation Group
2W Aviation House
Gatwick Airport South
RH6 0YR

e-mail: ats.enquiries@caa.co.uk

5. Cancellation

- 5.1 This Safety Notice shall remain in force until 31 December 2013.