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Interagency Aviation Accident Prevention Bulletin



No. IA APB 21-04

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Subject: Aircraft Operations in Poor Visibility

Area of Concern: Aviation Operations

Distribution: All fire and Aviation Operations

Discussion: This Safety Alert reinforces [IA SA 17-03 Aircraft Operations in Poor Visibility](#).

There are increasing reports of aircrews being asked to accept missions in marginal visibility conditions. Operating in reduced/low visibility is highly demanding and becomes more dangerous at higher airspeeds. Pilots operating in smoky environments are often challenged to locate drop zones or hazards obscured by the smoke or haze. Ensuring adequate horizontal and vertical visibility is critical for both mission success and flight safety.



Key Points:

- In-flight visibility must meet the FAA Visual Flight Rules (VFR) minimum requirement for the airspace that aircraft are operating in. When poor visibility precludes safe operations, flights must be suspended.
- Aircraft should not be dispatched unless adequate horizontal and vertical visibility can be verified along the flight route and in the low-level operating environment. Forecast information for wildland fire and smoke conditions is available at the National Weather Service Fire Weather Portal at <https://www.weather.gov/fire/>.
- Pilots must not continue the mission when visibility and surrounding terrain presents an unsafe working environment. Pilots should communicate visibility concerns with aerial supervision and/or ground operations personnel. As an alternative, pilots may work with aerial supervision and/or ground operations personnel on a different part of the fire with better visibility, or return to base.
- The pilot in command retains the final authority regarding flight safety. (See [IASA 21-04 for How to Properly Refuse Risk in Aviation](#))

- All incident aircraft should fly with lights on when flying in reduced visibility conditions in addition to providing and position reports.
- Availability of aircraft for assignment is affected by marginal visibility conditions. Aircraft may not be able to accept a mission request (i.e. medical extraction helicopters) if the visibility is too low. Plan accordingly and develop alternatives.
- Consider the adverse health impacts to flight crews and develop methods to minimize their exposure to smoke when feasible.
- Particulates from smoke may also warrant additional attention to aircraft maintenance.

Helicopter Operations: Day Visual flight Rules (VFR) Only

Except for authorized night operations, or for reasons of life-or-death emergency, single-engine helicopters are **limited to flight during daylight hours and only under VFR conditions (minimum ½ mile visibility)**. Daylight hours are defined as 30 minutes before official sunrise until 30 minutes after official sunset or, in Alaska, during extended twilight hours when the terrain features are readily distinguishable for a distance of at least one mile.

Daylight hours may be further limited by smoke, shadows and other environmental factors. Mountainous or rising terrain may cast shadows similar to late dawn or early dusk conditions resulting from its relationship to the sun. Flight operations may be limited at the discretion of the Pilot or Helicopter Manager due to low visibility caused by smoke, shadows, or other conditions.

Light Fixed-Wing/Airtanker Operations:

Initial attack airtanker pilots should request a leadplane when horizontal or vertical visibility deteriorates.

- If necessary, airtanker pilots may need to jettison their loads and return to an airtanker base until a leadplane is dispatched or confirmed on scene.
- Visibility may be verified by a leadplane, Aerial Supervision Module (ASM), Helicopter Coordinator (HLCO), or by an Air Tactical Group Supervisor (ATGS).

Visibility greatly affects flight safety and mission success. Costly, inefficient flights can be avoided if visibility can be determined prior to the mission request.

/s/ Keith C. Raley

Keith C. Raley
Chief, Aviation Safety, Training, Program
Evaluation, and Quality Management
DOI, Office of Aviation Services

/s/ Lori Clark

Lori Clark
Branch Chief - Aviation Safety Management
Systems
USDA, Forest Service