



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# SAFO

Safety Alert for Operators

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Flight Standards Service  
Washington, DC

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*A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest.*

**Subject:** Aircraft Taxi Operations During Snow and Ice Conditions

**Purpose:** This SAFO emphasizes the importance of conservative aircraft taxi operations in snow and ice weather conditions.

**Background:** From December 1, 2007 to January 31, 2008, eight Title 14 Code of Federal Regulations (14 CFR), part 121 turbojet airplanes (1 each B-737, 757, 767, 1 MD-83, and 4 CL-65) have departed the paved surfaces of airports during taxi operations due to loss of brake effectiveness and or steering control due to ice and/or snow accumulations on the surface. In several cases, the aircraft departed the end of the runway after completing a safe landing and slowing to a stabilized taxi speed. In other cases, aircraft were unable to negotiate taxiways while taxiing to the runway or ramp. In all of these cases, the pilots were operating at speeds which allowed sliding on the slippery taxiway or runway surface until coming to rest at least partially off the pavement, and stuck in snow. Additionally, in this same time period, two other events related to snow and ice accumulation on the surface occurred. In one event, a B-757 turned off the taxiway and onto a vehicle roadway, and subsequently became stuck in the snow. In another event, a C-208 landed between the taxiway and runway of an airport, resulting in substantial damage. In both cases, the surfaces were obscured by snow, and the pilots apparently mistook unusable surfaces for the desired taxiway and runway.

## **Discussion:**

**1. Departures From Paved Surfaces.** These events are not related to airplane landing performance requirements for operation on contaminated runways, rather, these events are related to taxi handling and braking effectiveness at taxi speeds in slippery conditions. The number of events and the wide range of aircraft involved underscore the importance of operators and pilots ensuring that aircraft are taxied at speeds which are appropriate to slippery conditions. In light of these events, air operators and pilots should review their criteria for suspending operations in ice and snow surface conditions. In such conditions, it is expected that airport capacity will be reduced. The key is to provide a safe operating environment, even if that environment is limited. Leaving the airport paved surface, especially without full steering and braking control, presents an unacceptable hazard, both to the aircraft off the pavement as well as

others on the ground and, depending on where the stuck aircraft is, in the air (i.e. if the ground navigation signal is influenced by proximity of aircraft on the ground).

**2. Obscuration of Surfaces by Snow and/or Ice.** Accumulations of snow and ice can obscure airport surfaces and make it difficult to distinguish usable surfaces from those that are unusable. Flight crews should verify the identification of airport surfaces by all available means in conditions where the surface is obscured. Such means include marshalers, follow-me vehicles, and progressive taxi or ramp instructions. Airborne aircraft should use all available tools to support identification of landing surfaces, such as an instrument landing system (ILS) localizer, lighting and signage.

**Recommended Action:** All Directors of Operations and Chief Pilots should ensure that training and operational procedures provide for pilot's use of appropriate speeds during taxi operations so as to minimize the risk of sliding on slippery surfaces covered by ice and/or snow. Additionally, this training for pilots should include the conspicuity of surfaces, references to distinguish usable from unusable surfaces, and discussion on when to consider suspending aircraft operations when airport surfaces are unacceptable for taxi operations due to surface snow and ice contamination.

Any questions concerning this SAFO should be directed to the Air Carrier Operations Branch, AFS-220, at 202-267-8166.