

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****[Docket No. FAA-2000-8560]****Icing Terminology****AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Disposition of comments on proposed icing terminology.

SUMMARY: The FAA is publishing its final icing terminology and the disposition of the comments received regarding this icing terminology. These comments were solicited on December 22, 2000, when the FAA published its proposal for new and revised icing terms in the **Federal Register**.

ADDRESSES: The complete docket for the notice on intent may be examined at the Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-200), Room 914-G, Docket No. FAA-2000-8560, 800 Independence Ave., SW., Washington, DC 20591, weekdays (except Federal holidays) between 9 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Dan Meier, AFS-220 Air Transportation Division, Flight Standard Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267-3749.

SUPPLEMENTARY INFORMATION:**Background**

Following the 1996 FAA international Conference on Aircraft In-flight Icing, the FAA developed and implemented the FAA In-flight Aircraft Icing Plan during 1997 for responding to the recommendations and concerns which arose from that conference. Task 1.B of the FAA In-flight Aircraft Icing Plan responded to recommendations and concerns expressed during the conference relative to consistent use of operational icing terminology in FAA regulations, guidance material, and manuals. Task 1.B addressed clarifying and redefining icing terminology applied to in-flight operations. In implementing Task 1.B, the FAA was to: First, ensure that this icing terminology (e.g., known, forecast, observed, trace, light, moderate, severe, and "appendix C" icing) is used consistently and clearly by the Flight Standards Service, pilots, dispatchers, the National Weather Service (NWS), Aviation Weather Center, the Aircraft Certification Service, and Air Traffic; and second, to update guidance related to icing reporting and pilot, Air Traffic Control, and dispatcher actions.

To accomplish these objectives, the FAA established the Task 1B Working Group (WG), which comprised representatives from FAA, National Oceanic and Atmospheric Administration (NOAA), and the National Center for Atmospheric Research (NCAR). The goal of the WG was to review the definitions of all icing-related terms that appear in government aviation regulations, weather-related handbooks, aircraft flight manuals, etc. Based on its findings the WG was to make recommended changes to the definitions where they needed to be updated or improved. These recommendations would eliminate misunderstanding in their use among and between the previously mentioned sources.

This work was accomplished through a series of meetings by the WG, and the result was a set of proposed definitions for in-flight icing terminology. The WG did not consider or propose any changes to the aviation regulations or icing forecasting procedures, although it became clear to the WG that existing regulatory wording and existing policy within the U.S. National Weather Service (NWS) and the International Civil Aviation Organization (ICAO) limited the freedom of the WG to change the icing-related terms in use. A public meeting was held in July of 1999 to solicit comments and input from industry representatives and interested members of the public concerning the FAA's proposal to clarify or add selected icing terminology. The FAA also proposed to amend the pilot-reporting format for icing PIREPs and append a table of icing effects. The terminology definitions developed by the WG were published in the **Federal Register** on December 22, 2000 for public comment. The icing terminology definitions were appropriately revised during the disposition of the public comments.

Discussion*Summary of Significant Changes to Icing Terminology*

The new terminology excludes trace ice, eliminates former ambiguities about the meaning of known or forecast ice, and defines several new terms.

The term "trace ice" has been deleted from the FAA in-flight icing terminology. The current definition of trace ice implied that it was not hazardous to flight, however, experience and research have shown that trace ice can be hazardous to some airplanes in certain conditions and that icing conditions can vary quickly and significantly in intensity. Also, National

Transportation Safety Board (NTSB) Safety Recommendation A-98-88 recommended the following to the FAA: "Amended the definition of trace ice contained in Federal Aviation Administration (FAA) Order 7110.10L, "Flight Services" (and in other FAA documents as applicable) so that it does not indicate that trace icing is not hazardous." Deletion of the term "trace icing" responds to the NTSB's Safety Recommendation A-98-88. However, the Task 1.B WG did acknowledge that deletion of the term "trace icing" may affect operation of airplanes without approved ice protection provisions in the heretofore defined "trace icing" conditions. "Trace icing," previously defined as an icing intensity less severe than "light" or "moderate" icing, is not addressed by the FAA operating rules (14 CFR 91.527(b), 121.341(c), 125.221(c), and 135.227(c)). Therefore, the operation of some airplanes in "trace icing" without ice protection provisions may be inferred as acceptable since the term "trace icing" is not addressed by the rules. Definitions of the icing intensity terms are not included in the regulations definitions provided by 14 CFR part 1. The WG concluded that the term "trace icing" should be deleted since: (1) The airworthiness of airplanes without ice protection provisions in any icing conditions was not addressed during type certification of such airplanes; (2) the operating rules fail to define light and moderate icing and fails to address "trace icing;" (3) the earlier discussion indicates that "trace icing" can be hazardous, especially without ice protection provisions; and (4) the NTSB Safety Recommendation A-98-88 states that FAA documents should not indicate that "trace icing" is not hazardous. Deletion of "trace icing" and re-definition of "light icing" will clarify and provide a means for showing compliance with the intent of the previously mentioned FAA operating rules.

Airplanes having certification with ice protection provisions are approved for flight in icing conditions but do not have the capability of unlimited operation in all icing conditions. Currently, airplanes having certification with ice protection provisions, in compliance with 14 CFR 23.1419 and CFR 25.1419, must be able to operate safely in the icing conditions defined in appendix C of 14 CFR part 25. Icing conditions in clouds, defined in appendix C of 14 CFR part 25, were established as being satisfactory standards for the design and certification of airplane ice protection