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**Federal Aviation  
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# InFO

Information for Operators

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*An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.*

**Subject:** Ice Accretion Information in METAR/SPECI

**Purpose:** This InFO provides guidance to operations inspectors concerning the use and limitations of the Automated Surface Observing System (ASOS) Freezing Rain Sensor to measure ice accretion. It supersedes Flight Standards Information Bulletin for Air Transportation (FSAT) 00-04.

## **Background:**

A. Currently, ASOS reports the occurrence of freezing precipitation but provides no information on the rate of accumulation (accretion). The National Weather Service (NWS) has developed a new algorithm, to be applied to the existing freezing rain sensor on ASOS, that can accurately measure and report the amount of surface ice accretion at a specific point over a given time period. The NWS plans to implement the new ice accretion algorithm for public forecast and warning purposes starting this year (2000).

B. However, since the amount of ice accretion can vary widely from none to significant amounts over relatively small distances on and around an airport, the utility of this ice accretion information for tactical aviation decision making is highly uncertain.

## **Discussion:**

A. As currently planned by the NWS, the ASOS Freezing Rain Sensor and the newly developed ice accretion algorithm will generate information that will be included in the remarks section of an Aviation Routine Weather Report (METAR) or Special Report (SPECI). This icing information will only be included on a METAR/SPECI when icing is detected.

B. The remarks section of a METAR/SPECI is prefaced by "RMK" and is located at the end of the report. A typical METAR/SPECI includes sections for Location, Date/Time, Wind, Visibility, Significant Weather, Clouds, Temperature/Dewpoint, Altimeter, and Remarks (RMK). There can be any number of items in the remarks section, such as peak wind, variable ceiling or visibility, funnel clouds, etc. The icing information may appear before or after other information in the remarks section, depending on the priority of the information.

C. The icing information will appear in the remarks section of the METAR/SPECI in three segments:

(1) The first segment will provide the ice accretion amount during the preceding hour.

(2) The second segment is the 3-hour ice accretion report which presents the amount of ice accretion during the last 3 hours.

(3) The third segment is the 6-hour ice accretion report which presents the ice accretion amount during the last 6 hours.

D. All ice accretion amounts will be reported to the nearest one-hundredth of an inch (0.01 in.). An example of a 1, 3, 6-hour ice accretion remark would be: "I1010 I3015 I6022." This translates to 0.10 inches of ice in the last hour, 0.15 inches of ice in the last 3 hours, and 0.22 inches of ice in the last 6 hours.

E. This information will be useful to NWS forecasters in producing public weather warnings as well as public and aviation weather forecasts. It can also be useful to aviation users by providing general awareness of possible icing conditions at the airport. However, this ice accretion information is from a single sensor at a single location and cannot be considered representative of the overall icing potential for the airport surface as a whole. Because icing can be highly localized, icing occurring at the ASOS sensor may not be occurring at the same rate or at all on the airport ramp. Conversely, a report of no icing is not a guarantee that icing is not occurring on the ramp. The localized variability in icing is due to such factors as differences in ground temperatures, winds, sheltering, and precipitation rates over short distances at airports. Therefore, aviation users must recognize that ice accretion reports are useful for general awareness but should not be used as the basis for tactical decision making.

**Recommended action:** Directors of safety and directors of operations (Part 121); directors of operations (part 135) and training managers should ensure that the information contained in this InFO is made available to their flightcrews. In addition, ice accretion remarks reported by ASOS should *NOT* be used as the basis for airplane de-icing decisions or to make changes to anti-icing or de-icing procedures.