



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

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# Memorandum

Subject: **ACTION:** Procurement of Weather Support to  
Airport Deicing Decision Making Nowcasting  
System

Date: March 30, 2004

From: Manager, Airport Engineering Division, AAS-100

Reply to  
Attn. of:

To: Manager, Airport Financial Assistance, APP-500

A major winter safety issue affecting airport authorities is the need for more accurate real-time, weather forecasting that offers improvements in predicting the onset of winter storms and timing the application of runway deicing and anti-icing chemicals. Airport authorities report that forecasts by the National Weather Service are not sufficiently site-specific, and do not include all the data necessary to provide accurate, real-time storm prediction capabilities in the vicinity of the airport. Consequently, the limitations contribute to less effective runway clearing operations and unnecessary runway closures. By regulation, 14 CFR Part 139.313 requires airport certificate holders to prepare, maintain, and carry out an effective snow and ice control plan.

Paragraph 22, *Anti-icing vs. Deicing*, of Advisory Circular 150/5200-30, *Airport Winter Safety and Operations*, promotes anti-icing strategies over deicing strategies whenever possible to prevent bond formation, i.e., snow and ice bonding to the pavement. The preference is made for various reasons. In terms of safety, the pre-application of anti-icing chemicals is superior to post application of deicing chemicals because cleaner pavements generally result, thereby enhancing aircraft ground safety and mobility during and after winter storms. Secondly, airport authorities implementing anti-icing strategies report economic benefits - anti-icing requires fewer applications of chemicals, thereby saving significant costs in materials, employee time, and wear and tear on equipment. Finally, anti-icing strategies support our efforts to improve the environment by delivering the right amount of chemicals in the right place at the right time. Because of the safety, environmental, and economic benefits, a need exists for more reliant real-time weather forecasting systems. One automated forecasting system, developed by the National Center for Atmospheric Research under NOAA and supported by FAA, that produces analyses and short-term, real-time forecasts of winter weather conditions in the airport vicinity is Weather Support to Deicing Decision Making (WSDDM) Winter Weather Nowcasting System.

Accordingly, we have determined that safety is enhanced by the availability of WSDDM Nowcasting system for implementing more effective anti-icing programs, and therefore

recommend that WSDDM be made eligible for Federal funding under the AIP and the PFC programs.

Eligibility criteria is established according to the number of predominate snowstorms in directions experienced by an airport as outlined in the industry-approved specification, SAE ARP 5537, *Aerospace Standard for the Weather Support to Deicing Decision Making (WSDDM) Winter Weather Nowcasting System* (attached).

A handwritten signature in black ink that reads "Rick Marinelli". The signature is written in a cursive, flowing style.

Rick Marinelli, P.E.

Attachment