

National Aeronautics and  
Space Administration  
**Langley Research Center**  
Hampton, VA 23681-0001



March 15, 1996

Reply to Attn of:

Atle Hedløy  
President  
Norsemeter as  
Postboks 161  
3401 Lier, Norway

Dear Mr. Hedloy:

As you know, the Norsemeter's ROAR and RUNAR friction measuring systems have undergone extensive development and evaluation testing at the National Aeronautics and Space Administration's (NASA) Wallops Flight Facility (WFF) in Virginia on a wide range of pavement surfaces. These tests at WFF were performed under dry and self wet conditions and consistent friction data correlation was identified with several other devices, i.e. surface friction tester (SFT), runway friction tester (RFT), GripTester (GT), mu-meter (M-UM), and the diagonal-braked vehicle (DBV). More recently, January - March 1996, a variety of winter runway conditions were evaluated by RUNAR at North Bay, Ontario, Canada as part of a 5-year Joint NASA/Transport Canada/Federal Aviation Administration Winter Runway Friction Measurement Program. This program involves a variety of ground friction measuring devices as well as several instrumented test aircraft. Preliminary data analysis from these winter runway condition tests provides further confirmation of the excellent, repeatable and consistent correlation between RUNAR friction measurements and those obtained under similar conditions with an electronic recording decelerometer (ERD), SFT, RFT, GT, a French fixed slip trailer (IMAG), and the DBV.

I consider these test results with RUNAR to be fully acceptable and use of this reliable device for airport runway friction measurements is not only justified but encouraged.

In regards to RUNAR meeting necessary acceptance qualifications, I do not see any problem in regards to those requirements discussed in FAA Advisory Circular entitled Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces, AC 150/5320-12B and ICAO's Airport Services Manual, Part 2 - Pavement Surface Characteristics (Doc 9137).

The safety of aircraft ground operations under adverse weather conditions would be greatly enhanced if more widespread usage of these dependable friction measuring devices was achieved.

If you need additional information on this matter, please give me a call.

Best regards,

A handwritten signature in blue ink that reads "Thomas J. Yager".

Thomas J. Yager  
Senior Research Engineer  
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