

**APPENDIX B. RUNWAY CONDITION ASSESSMENT MATRIX (RCAM)\***

Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	Code	Mu ( $\mu$ ) <sup>1</sup>	Vehicle Deceleration or Directional Control Observation	Pilot Reported Braking Action
<ul style="list-style-type: none"> <li>Dry</li> </ul>	6	40 or Higher	---	---
<ul style="list-style-type: none"> <li>Frost</li> <li>Wet (Includes Damp and 1/8 inch depth or less of water)</li> </ul> <b>1/8 inch (3mm) depth or less of:</b> <ul style="list-style-type: none"> <li>Slush</li> <li>Dry Snow</li> <li>Wet Snow</li> </ul>	5		Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
<b>5° F (-15°C) and Colder outside air temperature:</b> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	4	39	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
<ul style="list-style-type: none"> <li>Slippery When Wet (wet runway)</li> <li>Dry Snow or Wet Snow (Any depth) over Compacted Snow</li> </ul> <b>Greater than 1/8 inch (3mm) depth of:</b> <ul style="list-style-type: none"> <li>Dry Snow</li> <li>Wet Snow</li> </ul> <b>Warmer than 5° F (-15°C) outside air temperature:</b> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	3	30	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
<b>Greater than 1/8 (3mm) inch depth of:</b> <ul style="list-style-type: none"> <li>Water</li> <li>Slush</li> </ul>	2	29	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
<ul style="list-style-type: none"> <li>Ice<sup>2</sup></li> </ul>	1	21	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
<ul style="list-style-type: none"> <li>Wet Ice<sup>2</sup></li> <li>Slush over Ice<sup>2</sup></li> <li>Water over Compacted Snow<sup>2</sup></li> <li>Dry Snow or Wet Snow over Ice<sup>2</sup></li> </ul>	0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

<sup>1</sup>The correlation of the Mu ( $\mu$ ) values with runway conditions and condition codes in the Matrix are only approximate ranges for a generic friction measuring device **and are intended to be used only to downgrade a runway condition code; with the exception of circumstances identified in Note 2.** Airport operators should use their best judgment when using friction measuring devices for downgrade assessments, including their experience with the specific measuring devices used.

<sup>2</sup>In some circumstances, these runway surface conditions may not be as slippery as the runway condition code assigned by the Matrix. The airport operator may issue a higher runway condition code (but no higher than code 3) for each third of the runway if the Mu value for that third of the runway is 40 or greater obtained by a properly operated and calibrated friction measuring device, **and all other observations, judgment, and vehicle braking action support the higher runway condition code. The decision to issue a higher runway condition code than would be called for by the Matrix cannot be based on Mu values alone; all available means of assessing runway slipperiness must be used and must support the higher runway condition code.** This ability to raise the reported runway condition code to a code 1, 2, or 3 can only be applied to those runway conditions listed under codes 0 and 1 in the Matrix.

The airport operator must also continually monitor the runway surface as long as the higher code is in effect to ensure that the runway surface condition does not deteriorate below the assigned code. The extent of monitoring must consider all variables that may affect the runway surface condition, including any precipitation conditions, changing temperatures, effects of wind, frequency of runway use, and type of aircraft using the runway. If sand or other approved runway treatments are used to satisfy the requirements for issuing this higher runway condition code, the continued monitoring program must confirm continued effectiveness of the treatment.

**Caution: Temperatures near and above freezing (e.g., at 27°F (-3°C) and warmer) may cause contaminants to behave more slippery than indicated by the runway condition code given in the Matrix. At these temperatures, airport operators should exercise a heightened level of runway assessment, and should downgrade the runway condition code if appropriate.**

\*Source: AC 150/5200-30, current version, is the source of the RCAM. Any updates to the RCAM in that AC supersede this appendix.