

# ACI-NA ---TALPA an Airline Perspective

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# Agenda

- AC150-5200-30D – RCAM
- Horizontal Version – RCAM
- Biggest Change – WET vs Standing Water
- Takeoff RCAM
- ACI – Training and Tools

# AC150-5200-30D (Draft) – RCAM

**Table 5-2. Runway Condition Assessment Matrix (RCAM) (for Airport Operators' Use Only)**

Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	Code	Mu ( $\mu$ ) 1	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> <p><b>1/8 inch (3mm) depth or less of:</b></p> <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
<p><b>-15°C and Colder outside air temperature:</b></p> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	4	39 to 30	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> <p><b>Greater than 1/8 inch (3mm) depth of:</b></p> <ul style="list-style-type: none"> <li>Dry Snow</li> <li>Wet Snow</li> </ul> <p><b>Warmer than -15°C outside air temperature:</b></p> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	3		Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
<p><b>Greater than 1/8 (3mm) inch depth of:</b></p> <ul style="list-style-type: none"> <li>Water</li> <li>Slush</li> </ul>	2	29 to 21	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		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</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

# Final RCAM After Validation Testing

Airport Runway Condition Assessment			Pilot Reports (PIREPs) Provided To ATC And Flight Dispatch	
Assessment Criteria		Downgrade Assessment Criteria		PIREP
Code	Runway Condition Description	Mu ( $\mu$ ) <sup>1</sup>	Deceleration And Directional Control Observation	
6	<ul style="list-style-type: none"> <li>Dry</li> </ul>	40 or Higher	-	Dry
5	<ul style="list-style-type: none"> <li>Wet (Includes water 1/8" or less and Damp)</li> <li>Frost</li> </ul> <p><b>1/8" or less depth of:</b></p> <ul style="list-style-type: none"> <li>Slush</li> <li>Dry Snow</li> <li>Wet Snow</li> </ul>		Braking deceleration is normal for the wheel braking effort applied. Directional control is normal.	Good
4	<p><b>-15°C and Colder outside air temperature:</b></p> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	39	Brake deceleration and controllability is between Good and Medium.	Good to Medium
3	<ul style="list-style-type: none"> <li>Wet ("Slippery when wet" runway)</li> <li>Dry Snow or Wet Snow (Any Depth) over Compacted Snow</li> </ul> <p><b>Greater than 1/8" depth of:</b></p> <ul style="list-style-type: none"> <li>Dry Snow</li> <li>Wet Snow</li> </ul> <p><b>Warmer than -15°C outside air temperature:</b></p> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	30 to 39	Braking deceleration is noticeably reduced for the wheel braking effort applied. Directional control may be noticeably reduced.	Medium
2	<p><b>Greater than 1/8" depth of:</b></p> <ul style="list-style-type: none"> <li>Water</li> <li>Slush</li> </ul>	29 to 30	Brake deceleration and controllability is between Medium and Poor. Potential for hydroplaning exists.	Medium to Poor
1	<ul style="list-style-type: none"> <li>Ice<sup>2</sup></li> </ul>	21 to 29	Braking deceleration is significantly reduced for the wheel braking effort applied. Directional control may be significantly reduced.	Poor
0	<ul style="list-style-type: none"> <li>Wet Ice<sup>2</sup></li> <li>Water on top of Compacted Snow<sup>2</sup></li> <li>Dry Snow or Wet Snow over Ice<sup>2</sup></li> </ul>	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied. Directional control may be uncertain.	Nil

# Final Horizontal RCAM After Validation Testing

Type	Dry	Wet (Includes water 1/8" or less and Damp)		Contaminant									
	N/A	Any	Slippery When Wet	Frost	Standing Water or Slush		Wet Snow or Dry Snow		Compacted Snow (May include imbedded Ice)		Dry or Wet Snow over Compacted Snow	Ice <sup>1</sup>	Wet Ice <sup>1</sup> Water Over Compacted Snow <sup>1</sup> Dry or Wet Snow Over Ice <sup>1</sup>
Depth	N/A	N/A		N/A	1/8" or less	Greater than 1/8"	1/8" or less	Greater than 1/8"	Any	Any	Any	Any	Any
NOTES			Slippery When Wet used to indicate excess rubber deposits in touchdown zones.		For Standing Water 1/8" or less report as WET				OAT -15°C or Colder	OAT Warmer than -15°C			Taxi, takeoff, and landing operations in Nil conditions are prohibited.
Rwy Code	6	5	3	5	5	2	5	3	4	3	3	1	0

<sup>1</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) if Mu values 40 or greater are obtained on all three thirds of the runway 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 3 can only be applied to those runway conditions listed under code 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 -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.**

Downgrade Assessment Criteria (Mu), Pilot Braking Action Descriptors and Landing Crosswind Component Limits								
Code	6	5	4	3	2	1	0	
Mu (μ) <sup>2</sup>	40 or higher		39		30	29	21	20 or lower
Deceleration & Directional Control Observation		Braking deceleration is normal for the wheel braking effort applied. Directional control is normal.	Brake deceleration and controllability is between Good and Medium.	Braking deceleration is noticeably reduced for the wheel braking effort applied. Directional control may be slightly reduced.	Brake deceleration is between Medium and Poor. Potential for hydroplaning exists.	Braking deceleration is significantly reduced for the wheel braking effort applied. Directional control may be significantly reduced.	Braking deceleration is minimal to non-existent for the wheel braking effort applied. Directional control may be uncertain.	
PIREP	Dry	Good	Good to Medium	Medium	Medium to Poor	Poor	Nil	

<sup>2</sup>The correlation of the Mu (μ) 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.** Airport operators should use their best judgment when using friction measuring devices for downgrade assessments, including their experience with the specific measuring devices used.

# Alaska Airlines Version Landing RSCRAT

LANDING RUNWAY SURFACE CONDITION REPORT ASSESSMENT TABLE (RSCRAT)

Type	Wet (Includes water 1/8" or less and Damp)			Contaminant									
	Dry	Any	Slippery When Wet	Frost	Standing Water or Slush	Wet Snow or Dry Snow		Compacted Snow (May include Imbedded Ice)	Dry or Wet Snow Over Compacted Snow	Ice <sup>1</sup>	Wet Ice <sup>1</sup> Water Over Compacted Snow <sup>1</sup> Dry or Wet Snow Over Ice <sup>1</sup>		
Depth	N/A	1/8" or less		N/A	1/8" or less	Greater than 1/8"	1/8" or less	Greater than 1/8"	Any	Any	Any	Any	Any
Notes		Slippery When Wet used to indicate excess rubber deposits in touchdown zones.			May include moderate rainfall intensity.	Includes moderate rainfall intensity on ungrooved runways or heavy rainfall intensity. <sup>2</sup>			OAT -15°C or Colder	OAT Warmer than -15°C			Takeoff and landing operations in NIL conditions are prohibited.
Rwy Code	6	5 (GOOD)	3 (MEDIUM)	5 (GOOD)	5 (GOOD)	2 (MED to POOR)	5 (GOOD)	3 (MEDIUM)	4 (GOOD to MED)	3 (MEDIUM)	3 (MEDIUM)	1 (POOR)	0 (NIL)

<sup>1</sup> The Runway Codes of 1 or 0 may be upgraded to Code 3 if accompanied by current Mu values 40 or better.

<sup>2</sup> A current FICON Report/PIREP can upgrade the Rwy Condition Code in Moderate or Heavy Rain.

**CAUTION**

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

Downgrade Assessment Criteria (Mu), Pilot Braking Action Descriptors and Crosswind Component Limits

Code	6	5	4	3	2	1	0
Mu (μ) <sup>3</sup>		40μ or higher	39-36μ	35-30μ	29-26μ	25-21μ	20μ or lower
Deceleration & Directional Control Observation		Braking deceleration is normal for the wheel braking effort applied. Directional control is normal.	Brake deceleration and controllability is between GOOD and MEDIUM.	Braking deceleration is noticeably reduced for the wheel braking effort applied, or directional control is slightly reduced.	Brake deceleration is between MEDIUM and POOR. Potential for hydroplaning exists.	Braking deceleration is significantly reduced for the wheel braking effort applied, or directional control is significantly reduced.	Braking deceleration is minimal to non-existent for the wheel braking effort applied, or directional control is minimal to non-existent.
PIREP	Dry	GOOD	GOOD to MEDIUM	MEDIUM (FAIR)	MEDIUM to POOR	POOR	NIL
Landing Max Allowable Crosswind Component	40 kts (400 & 700) 37 Kts (800 & 900)	40 kts (400 & 700) 37 Kts (800 & 900)	35 kts	25 kts	17 kts	15 kts	N/A

<sup>3</sup> The correlation of the Mu (μ) values with runway conditions and condition codes in the Runway Surface Condition Report Assessment Table are only approximate ranges for a generic friction measuring device and are intended to be used only to downgrade a runway condition code.

# The Biggest Change

**LANDING RUNWAY SURFACE CONDITION REPORT ASSESSMENT TABLE (RSCR)**

	Dry	Wet (Includes water 1/8" or less and Damp)					Contaminated		
Type	N/A	Any	Slippery When Wet	Frost	Standing Water or Slush		Wet Snow or Dry Snow		Compacted (May include Imbedded)
Depth	N/A	1/8" or less		N/A	1/8" or less	Greater than 1/8"	1/8" or less	Greater than 1/8"	Any
Notes			Slippery When Wet used to indicate excess rubber deposits in touchdown zones.		May include moderate rainfall intensity.	Includes moderate rainfall intensity on ungrooved runways or heavy rainfall intensity. <sup>2</sup>			OAT - 15°C or Colder
Rwy Code	6	5 (GOOD)	3 (MEDIUM)	5 (GOOD)	5 (GOOD)	2 (MED to POOR)	5 (GOOD)	3 (MEDIUM)	4 (GOOD to MED)

<sup>1</sup> The Runway Codes of 1 or 0 may be upgraded to Code 3 if accompanied by current Mu values 40 or better.

<sup>2</sup> A current FICON Report/PIREP can upgrade the Rwy Condition Code in Moderate or Heavy Rain.

**CAUTION**

Airport Operator is the best person to know when the runway goes from:

SEA 34L 5/5/5 100% WET

to

SEA 34L 2/2/5 50% 1/4 IN WATER



# Takeoff RSCRAT (RCAM)

TAKEOFF RUNWAY SURFACE CONDITION REPORT ASSESSMENT TABLE (RSCRAT)

	Dry	Wet		Loose Contaminants								Hard Packed Contaminants			
		Water, Wet Snow, Dry Snow, Slush	Frost	Wet Snow, Standing Water, or Slush			Dry Snow				Compacted Snow	Ice			
Depth		1/8" or less (Thin)	N/A	> 1/8" to ≤ 1/4"	> 1/4" to ≤ 1/2"	> 1/2"	> 1/8" to ≤ 1"	> 1" to ≤ 2"	> 2" to ≤ 4"	> 4"	Any	Any			
Notes			Slippery When Wet									See Note B below <sup>2</sup>			
Takeoff Performance Level	Dry	WET	Medium (or PIREP value)	WET	> 1/8" to ≤ 1/4"	> 1/4" to ≤ 1/2"	No Ops	> 1/8" to ≤ 1"	> 1" to ≤ 2"	> 2" to ≤ 4"	No Ops	Medium (or PIREP value)	Medium <sup>2</sup> (or PIREP value)	Poor	
Crosswind Limit <sup>1</sup>	40 kts (400 & 700) 33 Kts (800 & 900)	25 kts	15 kts (400) 20 kts (NG)	25 kts	Wet Snow 15 kts (400) 20 kts (NG)	Water/Slush 7 kts (400) 15 kts (NG)		15 kts (400) 20 kts (NG)					15 kts (400) 20 kts (NG)	15 kts (400) 20 kts (NG)	7 kts (400) 13 kts (NG)

Layered Contaminants																		
Type	Dry Snow Over Compacted Snow					Wet Snow Over Compacted Snow				Wet Ice or Water Over Ice <sup>3</sup> Wet Snow Over Ice <sup>3</sup> Slush Over Ice <sup>3</sup> Water or Slush Over Compacted Snow <sup>3</sup>				Dry Snow Over Ice <sup>3</sup>				
Depth	≤ 1/8" (Thin)	> 1/8" to ≤ 1"	> 1" to ≤ 2"	> 2" to ≤ 4"	> 4"	≤ 1/8" (Thin)	> 1/8" to ≤ 1/4"	> 1/4" to ≤ 1/2"	> 1/2"	≤ 1/8" (Thin)	> 1/8" to ≤ 1/4"	> 1/4" to ≤ 1/2"	> 1/2"	≤ 1/8" (Thin)	> 1/8" to ≤ 1"	> 1" to ≤ 2"	> 2" to ≤ 4"	> 4"
Notes											See Notes Below							
Takeoff Performance Level	Medium (or PIREP value)	Dry Snow > 1/8" to ≤ 1"	Dry Snow > 1" to ≤ 2"	Dry Snow > 2" to ≤ 4"	No Ops	Medium (or PIREP value)	Wet Snow > 1/8" to ≤ 1"	Wet Snow > 1/4" to ≤ 1/2"	No Ops	No Ops <sup>3</sup> or Medium <sup>2</sup> (or PIREP value)	No Ops <sup>3</sup> or Wet Snow > 1/8" to ≤ 1/4"	No Ops <sup>3</sup> or Wet Snow > 1/4" to ≤ 1/2"	No Ops	No Ops <sup>3</sup> or Medium <sup>2</sup> (or PIREP value)	No Ops <sup>3</sup> or Dry Snow > 1/8" to ≤ 1"	No Ops <sup>3</sup> or Dry Snow > 1" to ≤ 2"	No Ops <sup>3</sup> or Dry Snow > 2" to ≤ 4"	No Ops
Crosswind Limit <sup>1</sup>	15 kts (400) 20 kts (NG)					15 kts (400) 20 kts (NG)												

<sup>1</sup> Crosswind Limits are not enforced by Takeoff Performance Tools.

<sup>2</sup> If Mu values of 40 or greater are reported with no PIREPS, use Medium.

<sup>3</sup> PIREPS can be used to override No Ops conditions (allowing operations). Any PIREP that allows operation and contaminant depths greater than 1/8 inch, use the depth value to determine takeoff performance.



# Airports Council International

## Runway Condition Assessment & Reporting Training

Eddie Ragauskas  
Senior Manager – Online Learning Centre



## RCAM Training Tool

Airports Council International Global Training Team and Alaska Airlines are working together to develop an RCAM Training Tool.

- Online Web-based Training tool
  - Theoretical Component explaining all aspects of the RCAM process
  - Practical Component requiring participants to utilize a Practice Tool to correctly report condition scenarios
  - Includes testing of both Theory and Practice to ensure level of competency



## Purpose

Provide participants with the knowledge and skills that will assist them to successfully assess and report runway conditions based on the use of the Runway Condition Assessment Matrix (RCAM) as required by FAA Advisory Circular 150/5200-30D, Airport Field Condition Assessments and Winter Operations Safety.





## Course Objectives

On completion of this module participants will be able to:

- Understand the background to the changing requirements for Runway Condition Assessment and Reporting.
- Define and explain the major elements of the Runway Condition Assessment Matrix (RCAM) including:
  - Runway Contaminant Coverage
  - Contaminant Type
  - Contaminant Depth
  - Outside Air Temperature (OAT)



## Course Objectives

On completion of this module participants will be able to:

- Understand the steps required to conduct a Runway Condition Assessment and determine the Runway Condition Codes to be used in the final FICON Report
- Explain when a Runway Condition Assessment should be conducted
- Understand when and how Runway Condition Codes can be upgraded or downgraded
- Understand how to submit a completed FICON report



## Release Schedule

- High Level Design – February 2016
- Detailed Design – April 2016
- Build – May 2016
- Beta Release – June 2016
- Production Release – July/August 2016
- Available via ACI's online training portal at [www.olc.aero](http://www.olc.aero)

Questions and enquiries can be directed to:

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# Runway Condition Report - Data Collection Sheet

Airport

Runway

Date

Local Time (24 hr)

Initials

Is the portion of the Runway that is being maintained **MORE THAN 25%** covered with a contaminant?

**Yes, assign Runway Condition Codes and complete the Matrix Report** (blue box)

**No, DO NOT assign Runway Condition Codes but complete all other sections of the Matrix Report if any contamination is present** (blue box)

1st Rwy Third		2nd Rwy Third		3rd Rwy Third	
- For Coverage 25% or Less, Enter Code 6		- For Coverage 25% or Less, Enter Code 6		- For Coverage 25% or Less, Enter Code 6	
- Circle (or Mark) any contaminant below that covers more than 25% of the Rwy Third. Record the most restrictive code in the box to the right.		- Circle (or Mark) any contaminant below that covers more than 25% of the Rwy Third. Record the most restrictive code in the box to the right.		- Circle (or Mark) any contaminant below that covers more than 25% of the Rwy Third. Record the most restrictive code in the box to the right.	
- Circle (or Mark) Depth Only for: Water, Slush, Wet Snow, Dry Snow, or Any Snow OVER Compacted Snow		- Circle (or Mark) Depth Only for: Water, Slush, Wet Snow, Dry Snow, or Any Snow OVER Compacted Snow		- Circle (or Mark) Depth Only for: Water, Slush, Wet Snow, Dry Snow, or Any Snow OVER Compacted Snow	
Dry <input type="text"/> 6	Wet (Damp) <input type="text"/> 5	Frost <input type="text"/> 5	Below Min Friction Level Classification - Wet Slippery <input type="text"/> 3	Dry <input type="text"/> 6	Wet (Damp) <input type="text"/> 5
Water or Slush	Slush	Wet Snow or Dry Snow	Below Min Friction Level Classification - Wet Slippery <input type="text"/> 3	Dry <input type="text"/> 6	Wet (Damp) <input type="text"/> 5
GREATER Than 1/8" <input type="text"/> 2	1/8" or LESS <input type="text"/> 5	GREATER Than 1/8" <input type="text"/> 3	1/8" or LESS <input type="text"/> 5	GREATER Than 1/8" <input type="text"/> 2	1/8" or LESS <input type="text"/> 5
Depth		Dry or Wet Snow OVER Compacted Snow		Depth	
1/8" or Less <input type="text"/>	1/4" <input type="text"/>	1/2" <input type="text"/>	3/4" <input type="text"/>	1" <input type="text"/>	2" or More <input type="text"/> 3
Compacted Snow		Compacted Snow		Compacted Snow	
-15°C or Colder <input type="text"/> 4	Warmer than -15°C <input type="text"/> 3	-15°C or Colder <input type="text"/> 4	Warmer than -15°C <input type="text"/> 3	-15°C or Colder <input type="text"/> 4	Warmer than -15°C <input type="text"/> 3
Ice <input type="text"/> 1	Wet Ice, Water OVER Compacted Snow, Snow OVER Ice <input type="text"/> 0	Ice <input type="text"/> 1	Wet Ice, Water OVER Compacted Snow, Snow OVER Ice <input type="text"/> 0	Ice <input type="text"/> 1	Wet Ice, Water OVER Compacted Snow, Snow OVER Ice <input type="text"/> 0

Misc. Data

°C Outside Air Temp

Active Precip?  Yes or  No

### Adjusted Runway Condition Codes

(ONLY If Downgrade or Upgrade Assessments Used)  
Requires an explanation in the comments section below

### Rwy Treatment Used?

Sand  Deicing Chem

### Time Applied

**Rwy** Before     Decel

**Mu** (If Applicable) After     CFME

**"RCAM Report . . .**  **Rwy**  **(%)**  **(inch)**

(Airport) (Rwy #) (Rwy Condition Codes) (% Coverage - 10, 25, 50, 75, or 100%) (Highest Depth only for Slush, Wet Snow or Dry Snow and Standing Water [Water 1/8" or less report as WET with no depth]) (Contaminant Type [Report in terms in Green Boxes, Water 1/8" or less report as WET])

(Remarks to be transmitted)

\_\_\_\_\_"

(Date) (Time)



Airport Runway Condition Assessment			Pilot Reports (PIREPs) Provided To ATC And Flight Dispatch
Code	Runway Condition Description	Downgrade Assessment Criteria	
		Mu (μ) <sup>1</sup>	Deceleration And Directional Control Observation
6	• Dry	40 or Higher	Dry
5	• Wet (Includes water 1/8" or less and Damp) • Frost • 1/8" or less depth of • Slush • Dry Snow • Wet Snow	39 to 30	Good
4	• -15°C and Colder outside air temperature: • Compacted Snow • Wet (Slippery when wet runway)	29 to 21	Good to Medium
3	• Dry Snow or Wet Snow (Any Depth) over Compacted Snow Greater than 1/8" depth of: • Dry Snow • Wet Snow Warmer than -15°C outside air temperature: • Compacted Snow		Medium
2	Greater than 1/8" depth of: • Water • Slush		Medium to Poor
1	• Ice <sup>2</sup>		Poor
0	• Wet Ice <sup>3</sup> • Water on top of Compacted Snow <sup>1</sup> • Dry Snow or Wet Snow over Ice <sup>2</sup>		Nil

<sup>1</sup>The correlation of the Mu (μ) 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. 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 if Mu values 40 or greater are obtained on all three thirds of the runway by a properly operated and calibrated friction measuring device. **Other observations, judgment and vehicle braking action support the higher runway condition code. The decision to issue a higher runway condition code should be based on the Matrix and not on subjective values alone.** 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 3 can only be applied if the runway conditions existed under code 0 and 1 in the Matrix.

The airport operator must also continually monitor the runway surfaces long as the higher code is in effect to ensure that the runway surface condition does not deteriorate below the code. The effect of monitoring must consider all variables that may affect the runway surface condition, including 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, continued monitoring program must confirm continued effectiveness of the treatment.

**Caution: Temperatures near and above freezing (e.g., at -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.**

Contaminated											
Type	Dry	Wet (Damp)	Slippery When Wet - Rwy Below Friction Level Classification	Water (standing)	Slush	Dry Snow or Wet Snow	Frost	Compacted Snow	Dry Snow or Wet Snow OVER Compacted Snow	Ice	Wet Ice; Water OVER Compacted Snow; Dry Snow or Wet Snow OVER Ice
Depth	N/A	N/A	N/A	GREATER than 1/8"	GREATER than 1/8" or LESS	1/8" or LESS than 1/8"	N/A	N/A	N/A	N/A	N/A
Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-15°C or COLDER than -15°C	N/A	N/A	N/A
Rwy Code	6	5	3	2	5	3	4	4	3	1	0

# Question?

