International Business Aviation Council

Business Aviation Perspective on GRF Implementation

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What is Business Aviation?

Future of Business Aviation

Boeing – eVTOL Prototype

Samson Motors – Switchblade Flying Car

Runway Excursion Threat

- Most common type of accident in business aviation
- On NBAA Safety Committee 2019 Top Safety Focus Area list
- Accidents highly preventable
  - Fly stabilized approach
  - Avoid float and long touchdowns
  - Perform Take-off and Landing Performance Assessment

Aspen/Pitkin County Airport (ASE) – Challenger Accident *Jan. 2014*

Business Aviation Perspective

- Business aviation operators fully support FAA's TALPA initiative
- Improved runway condition assessment and reporting = improved safety

Pilot Education Resources

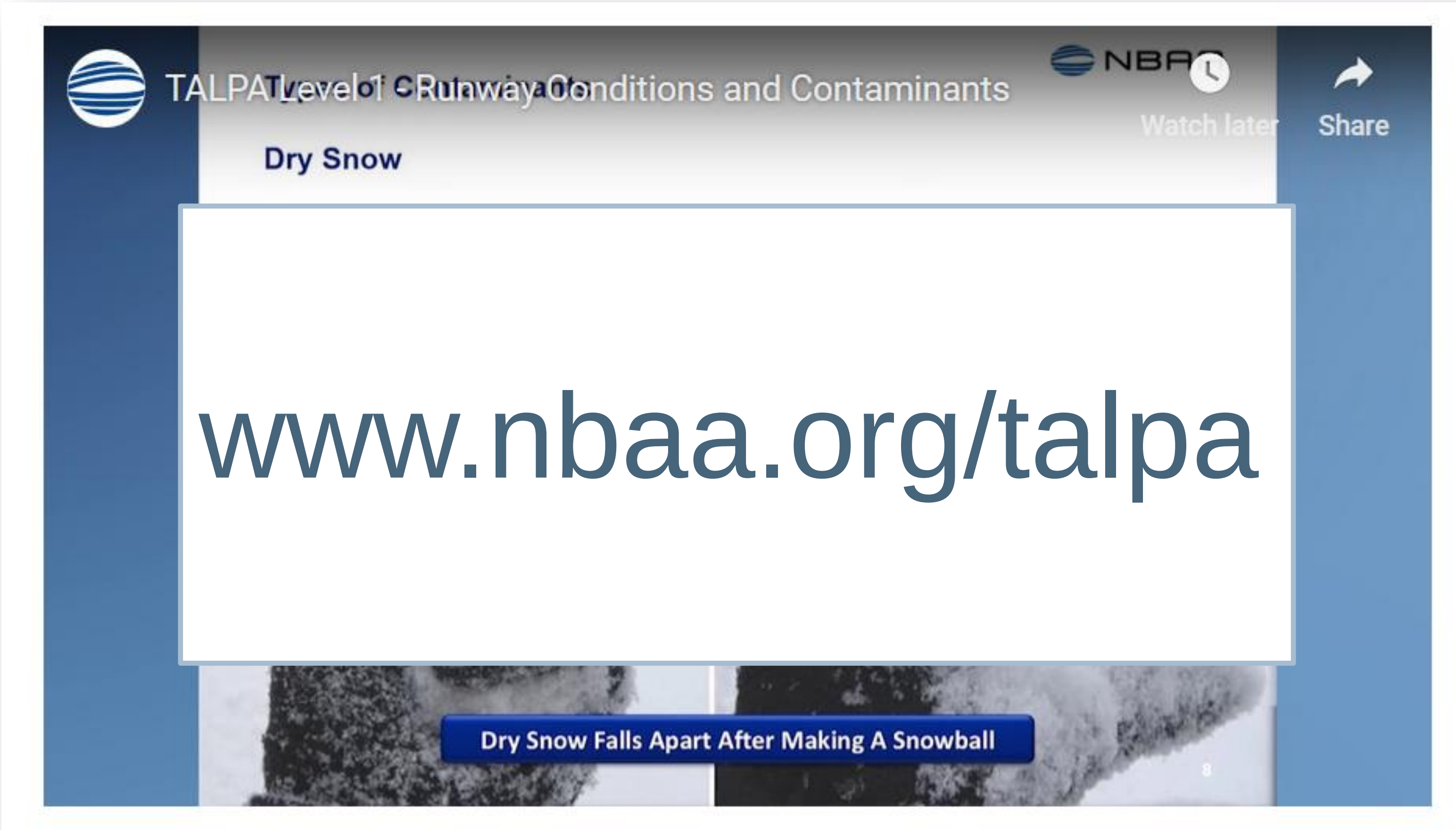
NBAA Webinar: New Runway Condition Reporting Brings Consistency, Clarity

NBAA Webinar – Oct. 21, 2016

Pilot Education

TALPA Session – Nov. 1, 2016

Pilot Education Resources



www.nbaa.org/talpa

Pilot Education Resources

NBAA Business Aviation Insider Magazine – May 2018

Identified Challenges

IBAC

- Lack of timely reporting or no reporting at all
  - Issues most prevalent at non-Part 139 (non-certificated) airports
- Inconsistent wet runway reporting
- Lack of aircraft performance information from OEMs

NBAA Pilot Quick Reference Card

PILOT'S RUNWAY CONDITION ASSESSMENT MATRIX

PILOT/AIRCRAFT OPERATOR OPERATIONAL RUNWAY CONDITION
ASSESSMENT MATRIX (RCAM) BRAKING ACTION CODES AND DEFINITIONS

Assessment Criteria		*Control/Braking Assessment Criteria*	
Runway Condition Description	RwyCC	Deceleration or Directional Control Observation	Pilot Reported Braking Action
• Dry	6	—	—
• Frost • Wet (Includes damp and 1/8 inch depth or less of water) 1/8 Inch (3mm) Depth or Less of: • Slush • Dry Snow • Wet Snow	5	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
-15 °C and Colder Outside Air Temperature: • Compacted Snow	4	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
• Slippery When Wet (wet runway) • Dry Snow or Wet Snow (any depth) over Compacted Snow Greater Than 1/8 Inch (3 mm) Depth of: • Dry Snow • Wet Snow Warmer Than -15 °C Outside Air Temperature: • Compacted Snow	3	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced	Medium
Greater Than 1/8 Inch (3 mm) Depth of: • Water • Slush	2	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
• Ice	1	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
• Wet Ice • Slush over Ice • Water over Compacted Snow • Dry Snow or Wet Snow over Ice	0	Braking deceleration is minimal to nonexistent for the wheel braking effort applied OR directional control is uncertain.	Nil

Note: The unshaded portion of the RCAM is associated with how an airport operator conducts a runway condition assessment.

Note: The shaded portion of the RCAM is associated with the pilot's experience with braking action.

Note: The Pilot/Aircraft Operator Operational RCAM Illustration will differ from the RCAM Illustration used by airport operators. The RCAM Illustration used by Airport Operators is not intended for use by pilots and/or aircraft operators.

Note: Runway Condition Codes (RwyCC), one for each third of the landing surface, (e.g., 4/3/3), represent the runway condition description as reported by the airport operator. The reporting of codes by runway thirds began October 2016.

TIME OF ARRIVAL LANDING DISTANCE ASSESSMENT

- When a grooved or PFC surfaced runway is wet, the assessment may be based on using the AFM dry runway, unfactored landing distance x 1.92.
- Otherwise, the assessment should use landing distance data based on the reported Runway Condition Code (RwyCC) or braking action.
- If landing distance data based on the RwyCC/braking action is not available, FAA's Landing Distance Factors may be used ith the AFM dry runway, unfactored landing distance to determine the Landing Distance Required. These factors incorporate a 15% safety margin.

THE FOLLOWING FACTORS ARE MULTIPLIERS TO THE UNFACTORED AFM DEMONSTRATED LANDING DISTANCES:

Braking Action	Runway Condition Code						
	6 (Dry)	5 Grooved/ PFC Good	5 Smooth Good	4 Good to Medium	3 Medium	2 Medium To Poor	1 Poor
Turbojet, No Reverse	1.67	2.3	2.6	2.8	3.2	4.0	5.1
Turbojet, With Reverse	1.67	1.92	2.2	2.3	2.5	2.9	3.4
Turboprop Note 1	1.67	1.92	2.0	2.2	2.4	2.7	2.9
Reciprocating	1.67	2.3	2.6	2.8	3.2	4.0	5.1

Note: These LDFs apply only to turboprops where the AFM provides for a landing distance credit for the use of ground idle power level position. Turboprops without this credit should use the Turbojet, No Reverse LDFs.

Compiled by NBAA Access Committee

Transitioning to GRF

- Consistency - serious consideration given to change what has been established
  - Keep terminology the same
    - RCAM
    - RwyCC
  - Keep one aircraft performance standard
  - Publish multiple limiting contaminants as implemented by FAA
- Education will be critical

Summary

- Accuracy and timeliness of reports are vital
- Consistency across state implementations must be maintained
- Education for all stakeholders is critical

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