NOTAM Manager
Training Presentation
for
Transition to the
Runway Condition
Assessment Matrix (RCAM)
7930.2R
Presented to:
ENII Users

Presented by:
National Airspace System Integration Support Contract (NISC) Personnel
Background

A Takeoff and Landing Performance Assessment Aviation Rule Making Committee (TALPA ARC) was formed in response to NTSB findings after Southwest Airlines crash at MDW in 2005 to:

- address safety of operations on wet and contaminated runways
- make improvements to the assessment and reporting of Airport Surface Conditions
JO 7930.2 Changes Para 5-1-4

• Section 5-1-4 is restructured due to the recommendations of the TALPA ARC.

• Highlights are:
  • PATCHY no longer used
  • THN is eliminated – actual measurement is used
  • RUTS no longer condition of contaminated surface, but is part of the Safety Area. Removed from FICON
  • No partial RWY Reporting (S 2000ft)
  • No standalone MU NOTAMs for RWYs – all references to MU and friction measuring equipment deleted
JO 7930.2 Changes Para 5-1-4

- RUBBER is deleted from contaminant list for RWY and APRON. It is still available on TWY. (Slippery When Wet is a stand-alone NOTAM, used only on runways, when describing a rubber accumulation.)
- Removed Pilot Reported Field Condition feature
- If whole RWY is treated (eg. plowed, swept) treatment not included in NOTAM
- Specifies differences between RWY, TWY, and APRON Field Condition reporting
- Describes Runway Condition Code (RwyCC) and RCAM, and includes Tables
• Airport operators use the Runway Condition Assessment Matrix (RCAM - See Table 5-1-5) to report the contaminants for Paved Surfaces, which include asphalt, asphalt-concrete, concrete, and porous friction course.

• The US FNS generates the RwyCC based on airport operator input of the runway assessment. Per AC 150/5200-30D, *Airport Field Condition Assessments and Winter Operations Safety*, airport operators have the capability to downgrade or upgrade the RwyCC under certain circumstances.

• Non-paved surface NOTAMs do not include the RwyCC.
<table>
<thead>
<tr>
<th>Runway Condition Description</th>
<th>Code</th>
<th>Vehicle Deceleration or Directional Control Observation</th>
<th>Pilot Reported Braking Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>6</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Frost</td>
<td>5</td>
<td>Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.</td>
<td>Good</td>
</tr>
<tr>
<td>Wet (Includes Damp and 1/8 inch depth or less of water)</td>
<td>5</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1/8 inch (3mm) depth or less of:</td>
<td>5</td>
<td>Braking deceleration OR directional control is between Good and Medium.</td>
<td>Good to Medium</td>
</tr>
<tr>
<td>Slush</td>
<td>4</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Dry Snow</td>
<td>4</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Wet Snow</td>
<td>4</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Compacted Snow</td>
<td>4</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Slippery When Wet (wet runway)</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Dry Snow or Wet Snow (Any depth) over Compacted Snow</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Greater than 1/8 inch (3mm) depth of:</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Dry Snow</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Wet Snow</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Warmer than 5°F (-15°C) outside air temperature:</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Compacted Snow</td>
<td>3</td>
<td>Braking deceleration OR directional control is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.</td>
<td>Medium</td>
</tr>
<tr>
<td>Greater than 1/8 inch (3mm) inch depth of:</td>
<td>2</td>
<td>Braking deceleration OR directional control is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.</td>
<td>Poor</td>
</tr>
<tr>
<td>Water</td>
<td>2</td>
<td>Braking deceleration OR directional control is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.</td>
<td>Poor</td>
</tr>
<tr>
<td>Slush</td>
<td>2</td>
<td>Braking deceleration OR directional control is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.</td>
<td>Poor</td>
</tr>
<tr>
<td>Ice²</td>
<td>1</td>
<td>Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.</td>
<td>Nil</td>
</tr>
<tr>
<td>Wet Ice²</td>
<td>1</td>
<td>Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.</td>
<td>Nil</td>
</tr>
<tr>
<td>Slush over Ice</td>
<td>1</td>
<td>Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.</td>
<td>Nil</td>
</tr>
<tr>
<td>Water over Compacted Snow²</td>
<td>1</td>
<td>Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.</td>
<td>Nil</td>
</tr>
<tr>
<td>Dry Snow or Wet Snow over Ice²</td>
<td>1</td>
<td>Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.</td>
<td>Nil</td>
</tr>
</tbody>
</table>
AC 150/5200-30D

CHANGES in D version

• This advisory circular (AC) provides guidance to assist airport operators in assessing and reporting field conditions through the utilization of the Runway Condition Assessment Matrix (RCAM), conducting and reporting runway friction surveys, and developing snow removal and control procedures.

• All certificated and federally obligated airports are required to follow the RwyCC requirements effective October 1, 2016. At that time, certificated airports will be required to comply with the remaining portions of this AC.
• If the overall runway coverage is greater than 25 percent, RwyCCs must be assigned, and reported, informing airplane operators of the contaminant present, and associated codes for each third of the runway. (The reported codes, will serve as a trigger for all airplane operators to conduct a takeoff and/or landing performance assessment).

• The airport operator may upgrade the RwyCCs 0 and 1 up to but no higher than a RwyCC of ‘3’, only when all of the following requirements are met:
All observations, judgment, and vehicle braking action support the higher RwyCC, and

Mu values greater than 40 are obtained for the affected third(s) of the runway by a calibrated friction measuring device that is operated within allowable parameters.

This ability to raise the reported RwyCC to no higher than a code 3 can only be applied to those runway conditions listed under code 0 and 1 in the RCAM (cannot upgrade an RwyCC of 2 or higher).
Changes to ENII

2 Options Added:
- RWY Surface Condition
- RWY Slippery When Wet
Changes to ENII

To create a Surface Condition NOTAM, you must first select a RWY option.

- RWY Keyword auto fills
- Only Directional RWYs are listed
- Conditions are to be entered in thirds

**Facility/Identifier:** MCI-KANSAS CITY INTL

**Keyword:**
- Select Keyword: RWY
- Select Designator: 01L, 19R, 01R, 19L, 00, 27

**Period of Validity**
- Start Date (UTC): 08/17/2016 1424
- End Date (UTC): 08/19/2016 1424

**Final NOTAM Text to be Submitted to NOTAM System**

```
MCI XXXX MCI RWY 19R FICON : 1608171424-1608181424
```
Changes to ENII

Must select % Coverage, Depth, and Contaminant for each RWY 1/3rd
Changes to ENII

You must select Add Contaminant to populate in the NOTAM – can enter 2 conditions per RWY 1/3rd.

If the next 1/3 of the RWY contains the same Contaminant, you can select Copy.

To delete an existing entry click the trash can icon.
Changes to ENII

If overall length and width of RWY has less than 25% coverage, no RwyCC will be generated (average of 3 sections =25% or less)

<table>
<thead>
<tr>
<th>TOUCHDOWN</th>
<th>MIDPOINT</th>
<th>ROLLOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Coverage</td>
<td>Depth</td>
<td>Contaminant</td>
</tr>
<tr>
<td>20%</td>
<td>≥1/8 in</td>
<td>Dry Snow</td>
</tr>
<tr>
<td>Coverage (TD)</td>
<td>Depth (TD)</td>
<td>Contaminant (TD)</td>
</tr>
<tr>
<td>20%</td>
<td>≥1/8 in</td>
<td>Dry Snow</td>
</tr>
</tbody>
</table>

Conditions reported without RwyCC: No RwyCC Calculated

Final NOTAM Text to be Submitted to NOTAM System

IMCI XX/XXX MCI RWY 19R FICON 20 PRCT 1/8IN DRY SN . 100817Z101-1008182101
Changes to ENII

Warning message will appear if total coverage range is less than 25%
### Changes to ENII

When average of 3 sections is >25%, NM automatically generates RwyCC for each 1/3 RWY.

- **Touchdown**
  - % Coverage: 50%
  - Depth: Select Val.
  - Contaminant: Wet

- **Midpoint**
  - % Coverage: 50%
  - Depth: 1/4 in
  - Contaminant: Wet Snow

- **Rollout**
  - % Coverage: 70%
  - Depth: 1/4 in
  - Contaminant: Wet Snow

RwyCC can be downgraded by using data in RCAM Table and Airport Operator Judgment.

RwyCC is in NOTAM and conditions for each 1/3 of RWY.

**Final NOTAM Text to be Submitted to NOTAM System**

```
!MCI XX/XXX MCI RWY 19R FICON 5/3/3 50 PRCT WET, 50 PRCT 1/4IN WET SN, 70 PRCT 1/4IN WET SN. 1608172101-1608182101
```
When RwyCC is a 0 or a 1, they can be upgraded (not higher than 3) if specific circumstances exist involving ice or compacted snow (a 2 cannot be upgraded since the only contaminants that generate a 2 are water and slush.)
Changes to ENII

1. Enter desired upgraded Code, not above a 3

2. Verify conditions required to upgrade RwyCC

- Airport Operator Judgement
- Vehicle Braking
- Friction Equipment Calibrated
- All other observations

Mu Value (must be ≥ 40)
Changes to ENII

Once conditions are verified, select OK.

Must type in MU value.
# Changes to ENII

The image shows a screenshot of a user interface for entering data related to runway conditions. The interface includes sections for touchdown (TD), midpoint (MP), and rollout (RO), with fields for coverage, depth, and contaminant types. The specific conditions entered are:

- **Touchdown (TD)**:
  - % Coverage: 50%
  - Contaminant: Ice

- **Midpoint (MP)**:
  - % Coverage: Select Value
  - Contaminant: Select Value

- **Rollout (RO)**:
  - % Coverage: Select Value
  - Contaminant: Select Value

The user interface also includes options to copy data to other sections and buttons to add contaminants. The final NOTAM text to be submitted to the NOTAM system is shown below:

```
MCI XXXXX MCI RWY 27 FICON 2/16 50 PRCT ICE. 1608172126-1608182126
```
If center portion of RWY is DRY:
1. Enter each 1/3rd as 100% DRY
Center Portion of RWY DRY

2. Enter the width in feet of the DRY portion of the RWY

<table>
<thead>
<tr>
<th>Contaminant Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 50 FT</td>
</tr>
</tbody>
</table>

2. Pilot reported braking action information (within the last 15 minutes)

<table>
<thead>
<tr>
<th>Pilot Reported Braking Action:</th>
</tr>
</thead>
<tbody>
<tr>
<td>--Select Value--</td>
</tr>
</tbody>
</table>

3. Enter condition of remainder of RWY

<table>
<thead>
<tr>
<th>Observation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation Time (UTC):</td>
</tr>
<tr>
<td>MM/dd/yyyy hh:mm</td>
</tr>
<tr>
<td>Current Date and Time</td>
</tr>
</tbody>
</table>

3. Treatment

<table>
<thead>
<tr>
<th>Method-1</th>
<th>Method-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td></td>
</tr>
<tr>
<td>--Select Value--</td>
<td></td>
</tr>
<tr>
<td>Width:</td>
<td></td>
</tr>
<tr>
<td>--Select Value--</td>
<td></td>
</tr>
</tbody>
</table>

3. Remainder

<table>
<thead>
<tr>
<th>Contaminant-1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Snow</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contaminant-2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>--Select Value--</td>
</tr>
</tbody>
</table>

4. Review NOTAM language for accuracy

4. Snowbanks/Drifts/Windrows/Berm

<table>
<thead>
<tr>
<th>Drift Depth:</th>
</tr>
</thead>
<tbody>
<tr>
<td>--Select Value--</td>
</tr>
</tbody>
</table>

Final NOTAM Text to be Submitted to NOTAM System

MCI XX/XXX MCI RWY 01R FICON DRY 50FT WID REMAINDER 2IN DRY SN. 160818/14/16-160819/14/16
Pilot Reported Braking Action Feature

<table>
<thead>
<tr>
<th>Contaminant Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 50 FT</td>
</tr>
</tbody>
</table>

Pilot reported braking action information (within the last 15 minutes)

- **Pilot Reported Braking Action:**
  - **Select Value**
  - **Select Value**

Observation Details

- **Observation Time (UTC):** MM/dd/yyyy, hhmm
- **Current Date and Time:**

Treatment

- **Method-1**
  - **Type:** **Select Value**
  - **Width:**
- **Method-2**
  - **Type:** **Select Value**
  - **Width:**

Remainder

- **Contaminant-1:**
  - **Select Value**
  - **Depth-1:** **Select Value**
- **Contaminant-2:**
  - **Select Value**
  - **Depth-2:** **Select Value**

Snowbanks/Drifts/Windrows/Berm

- **Drift Depth:** **Select Value**
- **Drift Type:** **Select Value**

Information does not go into NOTAM, but into Archive Report – also justification for downgrading RwyCC

Final NOTAM Text to be Submitted to NOTAM System

IMCJ XX/XXX MCJ RWY 01R FICON DRY 50 FT WID. 1608181427-1608191427
Slippery When Wet is a stand-alone NOTAM, used only on runways, when describing a rubber accumulation.

The RwyCC will automatically generate a 3/3/3.

RWY Surface Condition – Slippery When Wet

IMC1 XX/XXX MCI RWY 01L/19R FCN 3/3/3 SLIPPERY WHEN WET 1608191427-1608201427