

# KTEB Chief Pilot Webinar

October 26, 2016

1100 EST

# Webinar Guidelines

- Please mute your phone, questions will be entertained by email.
- During the presentations please submit any questions to [tle@panynj.gov](mailto:tle@panynj.gov) and we will answer as many as possible at the end of all presentations.
- Any questions not answered during the webinar will be answered over the next several days.

# Agenda

- ▶ Airspace Procedures update
- ▶ Winter Operations including new runway condition reporting
- ▶ Runway Safety Action
- ▶ GBAS update
- ▶ Gridlock reminder
- ▶ TEB Airport APP
- ▶ NTSB Seminar

# Presenters

Pam Phillips, Mgr. Operations/Security, Port Authority NY & NJ, KTEB

Joey Medders, Operations Support Group North Team Manager, FAA

John Kastens, Mgr., Airport Operations, AvPORTS, TEB

Gary Palm, KTEB Air Traffic Control Tower Manager, FAA

Tom Lahovski, AFS-280, Air Carrier Training & Voluntary Safety Programs

Ralph Tamburro, Delay Reduction Project Manager, Port Authority NY & NJ,  
Aviation Dept.

Larry Brady, KTEB Air Traffic Control Tower Operations Support  
Specialist, FAA

Gabriel Andino, Noise Abatement & Environmental Compliance Manager, KTEB

# Teterboro Instrument Flight Procedures

Presented to: TEB Chief Pilots

By:

*Joey Medders*

Date: Eastern Service Center, Operations Support Group

October 26, 2016



Federal Aviation  
Administration



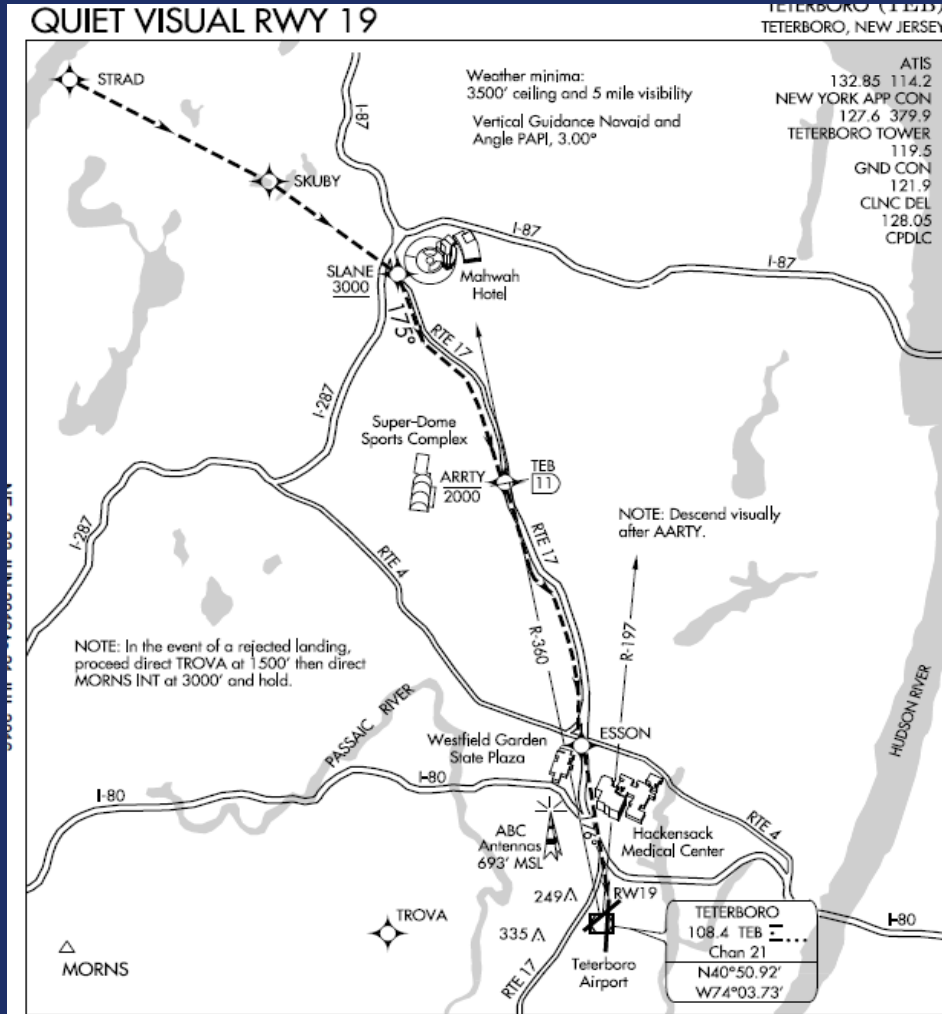
# Teterboro

## Instrument Flight Procedures

- ☐ TEB Quiet Visual RWY 19 (CVFP)
- ☐ TEB RNAV(GPS) RWY 24 (Original)
- ☐ TEB ILS & RNAV(GPS) RWY 19 (Transitions)
- ☐ TEB RUUDY6
- ☐ TEB RWY 6 Runway Visual Range



# TEB QUIET VISUAL RWY 19 CVFP



# Procedure Overview

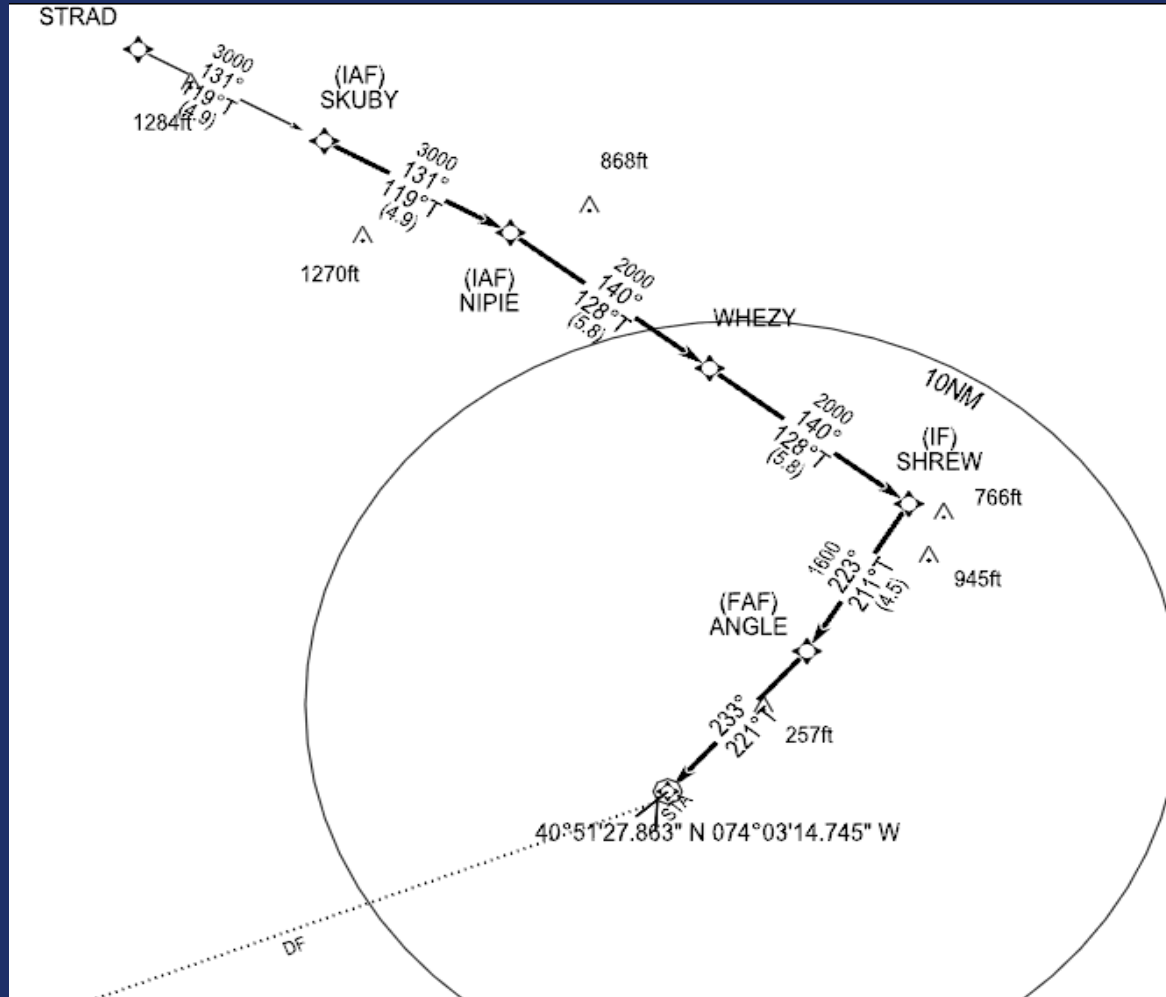
## ☐ **TEB QUIET VISUAL RWY 19 (CVFP)**

- ☐ Charted Visual Flight Procedure (CVFP) designed to reduce the number of aircraft overflying Hackensack University Medical Center
- ☐ Published 3/31/2016 with first availability for test 4/3/2016
- ☐ Chart updated 5/26/2016 with input from all stakeholders including TUG/NBAA/Jeppesen
- ☐ The 180 Day Test ended October 1<sup>st</sup>
- ☐ Due to lack of usage, the procedure will not be made permanent





# TEB RNAV(GPS) RWY 24 (ORIG)



# Procedure Overview

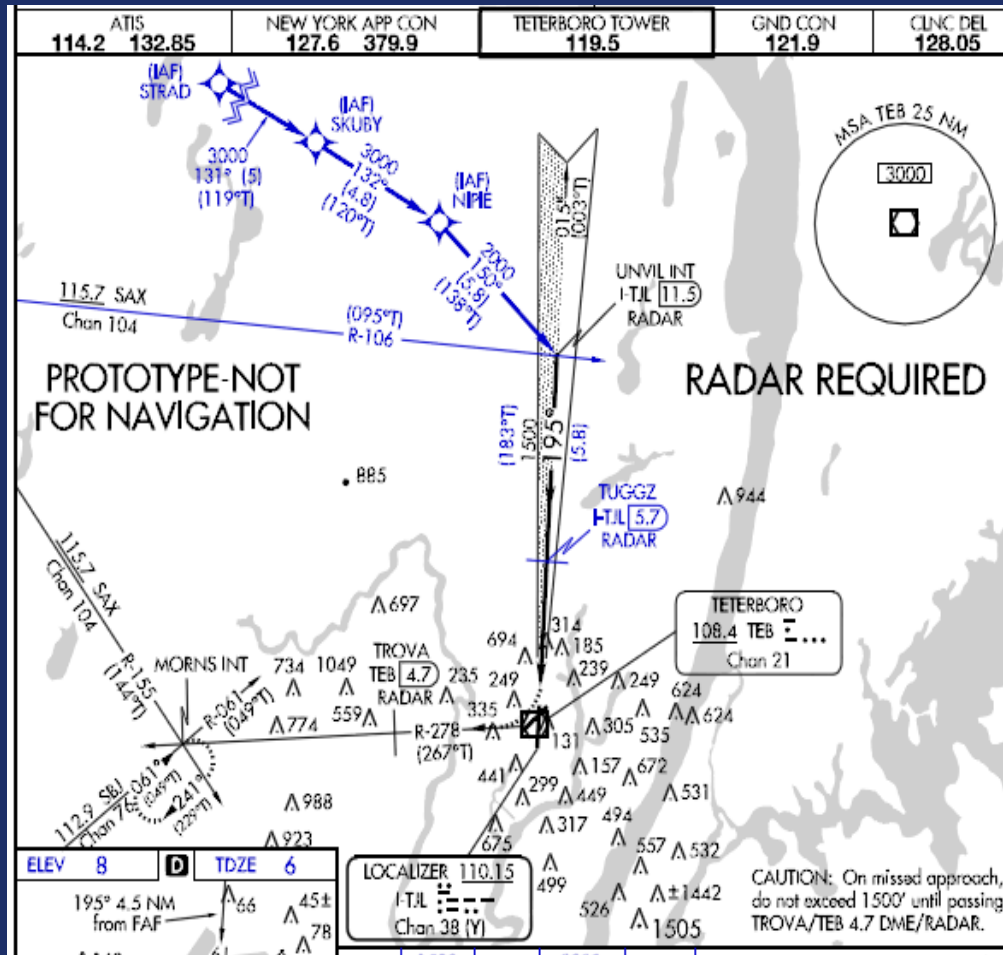
## □ TEB RNAV (GPS) RWY 24 (ORIG)

- Procedure designed to prevent over shoots of current VOR RWY 24 by use of “fly by” waypoints
- Provides airspace separation between TEB and LGA sectors
- Reduces controller work load with use of a transition and separation with CDW & MMU
- Environmental review will be conducted along with other procedures planned for TEB to ensure the cumulative impacts are assessed to avoid segmentation



# TEB ILS & RNAV (GPS) RWY 19

## RNAV GPS TRANSITIONS



# Procedure Overview

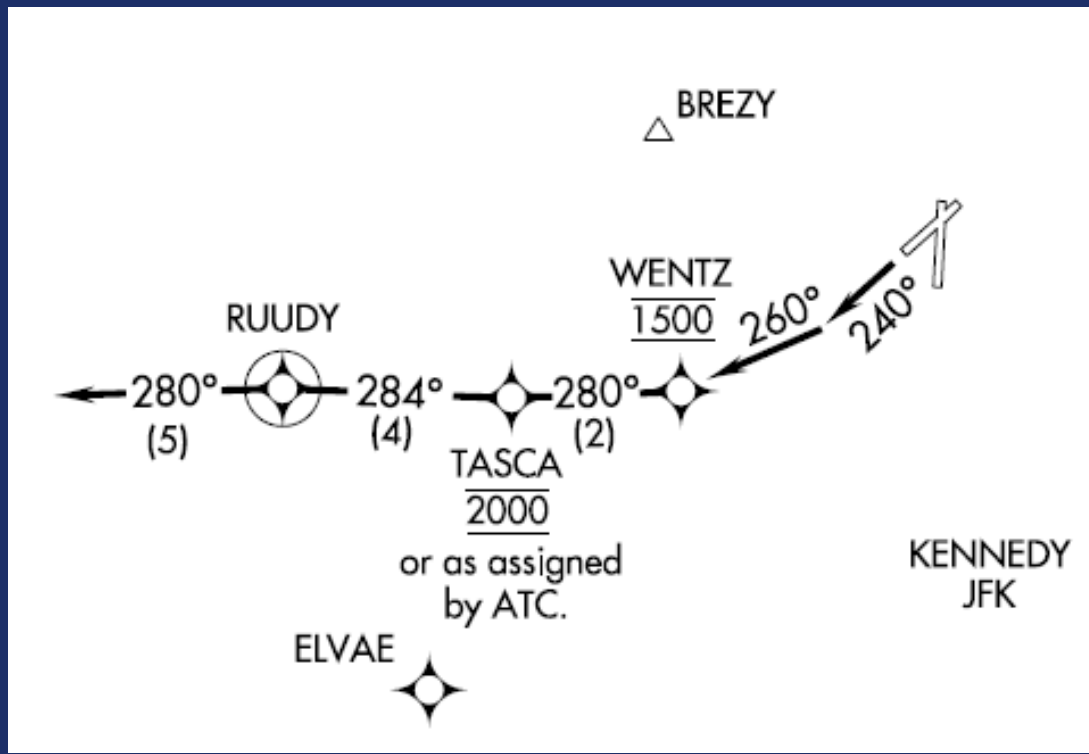
## ☐ TEB ILS & RNAV (GPS) RWY 19 RNAV GPS TRANSITIONS

- ☐ Both procedures amended with RNAV GPS Transitions
- ☐ Developed to reduced controller workload and separation with MMU & CDW
- ☐ Environmental analysis will be reviewed by the NSG
- ☐ Environmental review will be conducted along with other procedures planned for TEB to ensure the cumulative impacts are assessed to avoid segmentation



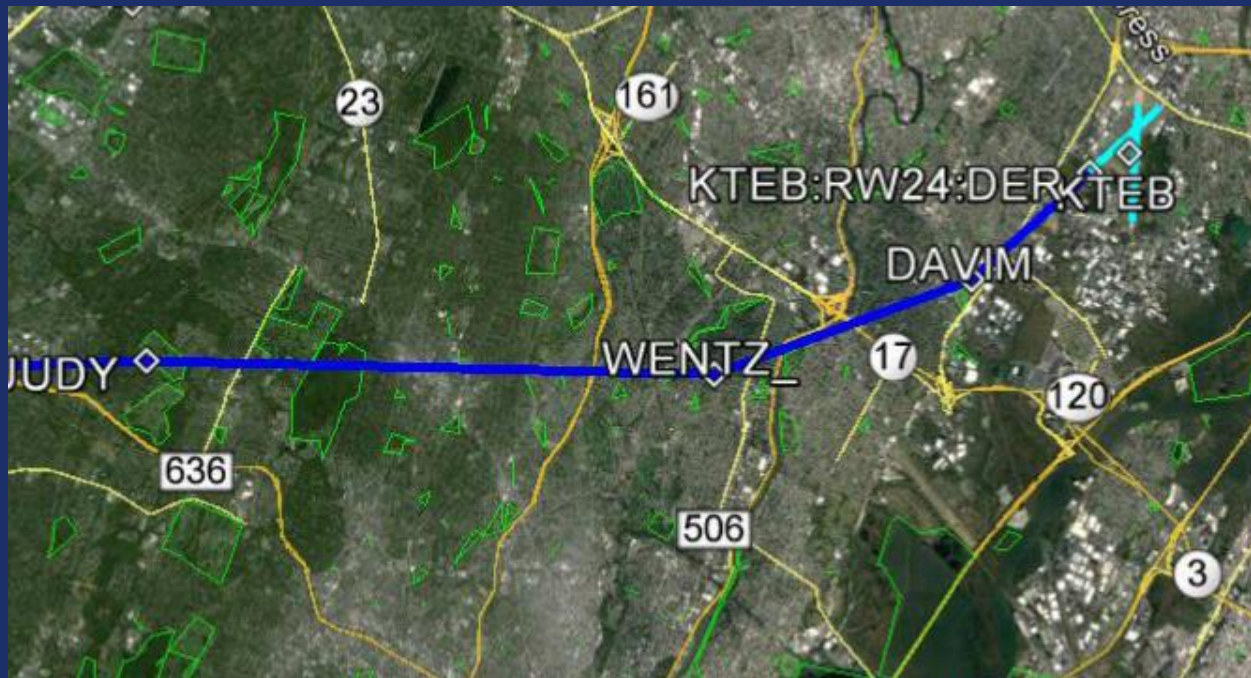
# RUUDY 6 (RNAV)

RUUDY 5 has had more than 100 Pilot Deviations since 2012



# Proposed RUUDY6 (RNAV)

- Replaces the initial heading with a waypoint to be named DAVIM
- Changing the top altitude to 2000'



# TEB RWY 6

## Runway Visual Range

- ❑ Enhanced Low Visibility Operation (ELVO) project for an additional RVR sensor on RWY 6.
- ❑ Part of the Special Authorization (SA) CAT II project under the ELVO program.
- ❑ The additional RVR sensor is eligible to be completed under the ELVO program. FAA Engineering Services will incorporate the project into the ELVO work plan.
- ❑ Completed initial site survey July 2016. Engineering design will begin Fall 2016. Construction is tentatively planned for 2017.



Please email any questions to  
[tle@panynj.gov](mailto:tle@panynj.gov)



# WINTER OPERATIONS

## Airport Operations Air Traffic Control

- TEB Snow Procedures
  - TALPA

# Snow & Ice Control Equipment

## Equipment

- Multifunction Equipment (plow, broom & blower in one)
- Heavy duty and light duty plows
- Rotary blowers

## Chemicals & Abrasive Materials

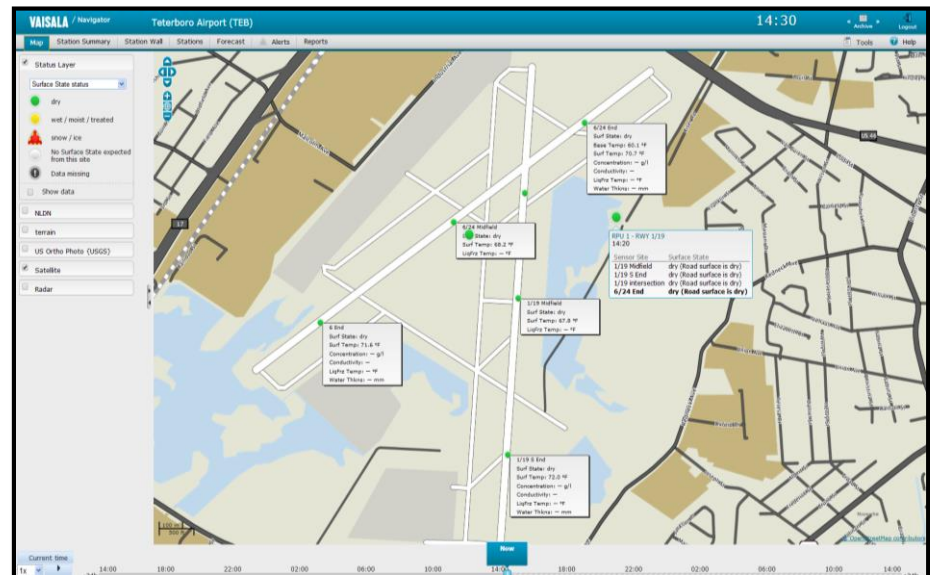
- Potassium Acetate (Liquid)
  - Primary applicator used to prevent ice bonding to pavement
- Sodium Acetate (Solid)
  - Secondary applicator used to melt ice on runway and taxiways
- Sand

*\*All 3 meet FAA-approved specifications.*

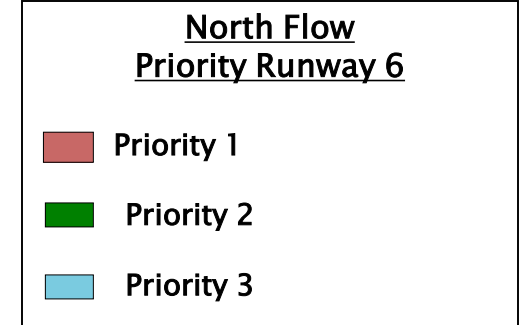
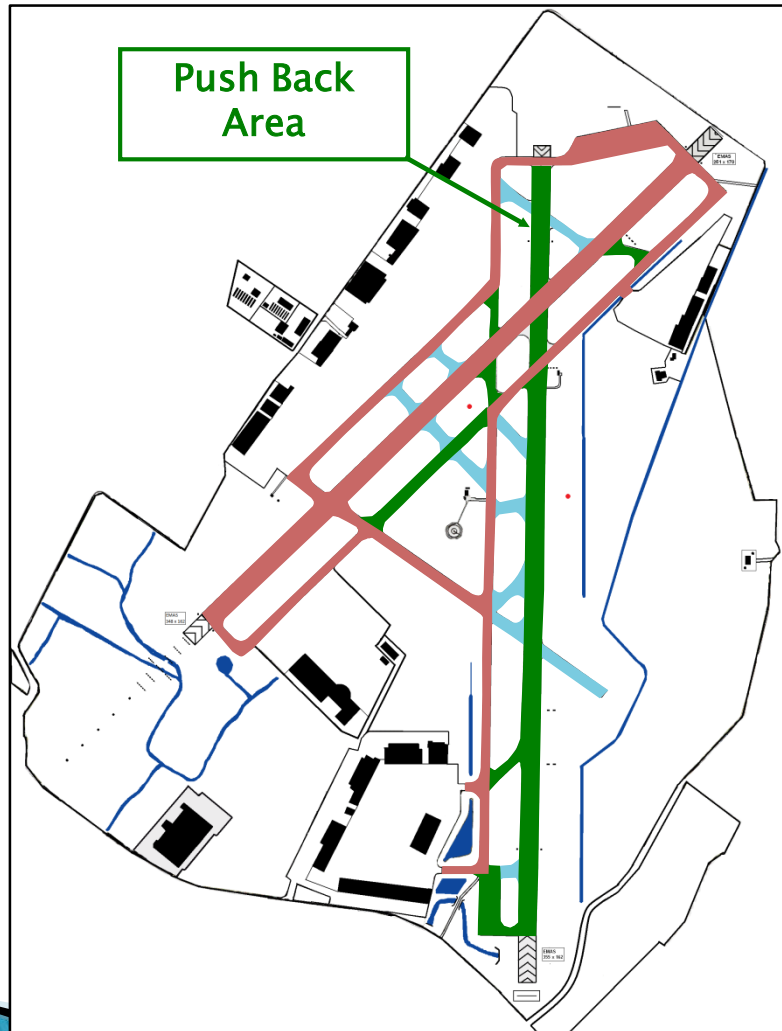
# Snow & Ice Control Equipment

## Runway Weather Information System (RWIS)

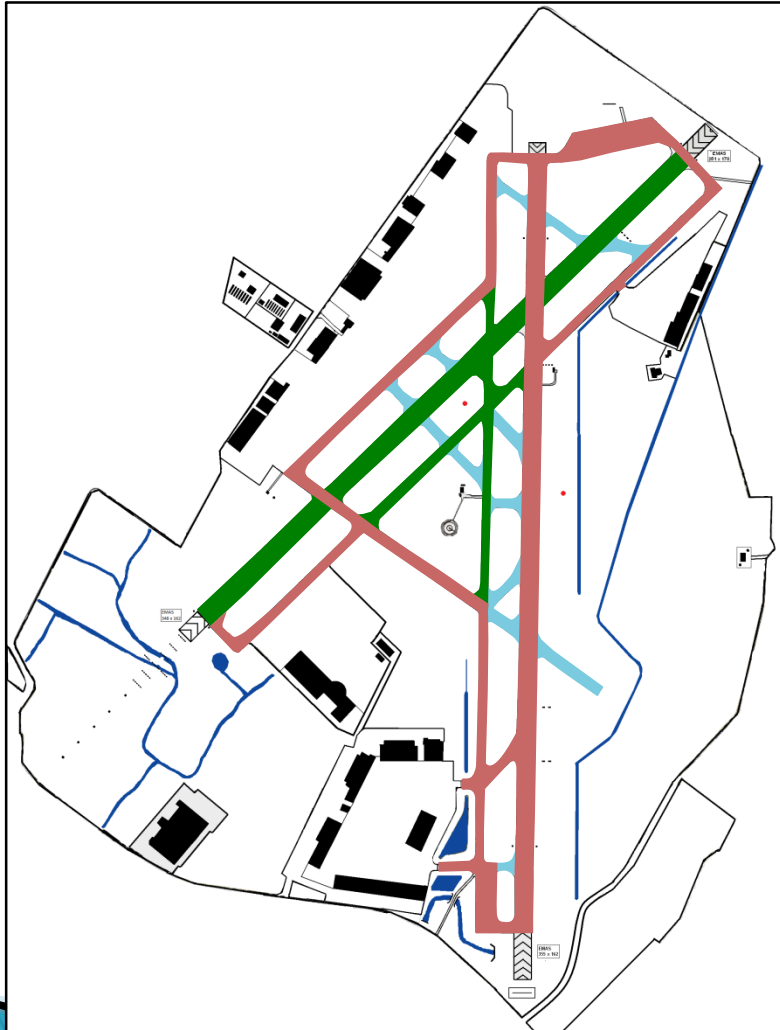
- In-Pavement Surface Sensors that provide:
  - Pavement Temperature
  - Air Temperature
  - Dew Point
  - Chemical Strength
  - Trends



# North Flow Priority – RWY 6



# South Flow Priority – RWY 19



**South Flow**  
**Priority Runway 19**

- Priority 1
- Priority 2
- Priority 3

# Snow Removal Criteria

## Braking Action Reporting

LOA between TEB ATCT & PANYNJ:

- Any time a braking action of NIL is reported to ATCT, regardless of aircraft type, that runway shall be immediately considered **closed** and ATCT shall not permit any further operations on that runway until notified by Airport Ops
- Airport Ops will immediately inspect runway and make determination on runway status

# Communication & Safety

## AOA Ops Supervisor (TEB 99)

- Single POC between Airport Ops, Airport Mx & ATCT
- Continuously monitor & assess runway conditions
- Issue all Field Condition Reports via NOTAM system

## Airport Ops Snow Desk (TEB 98)

- Coordinate runway closures with ATCT and TRACON
- Coordinate De-Icing Program between ATCT & FBOs
- Monitor PIREPs to identify deteriorating runway conditions

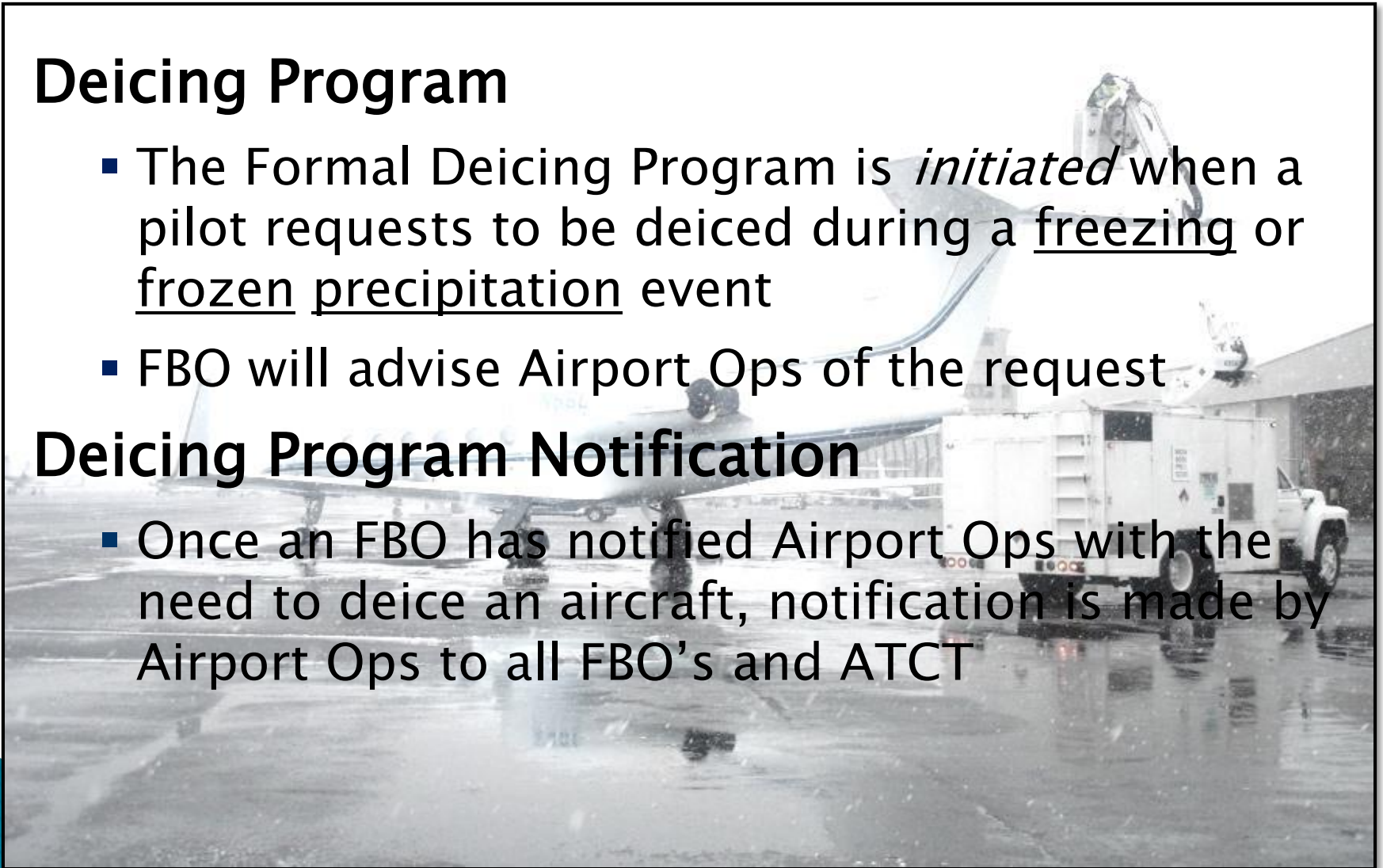
# Aircraft Deicing Program

## Deicing Program

- The Formal Deicing Program is *initiated* when a pilot requests to be deiced during a freezing or frozen precipitation event
- FBO will advise Airport Ops of the request

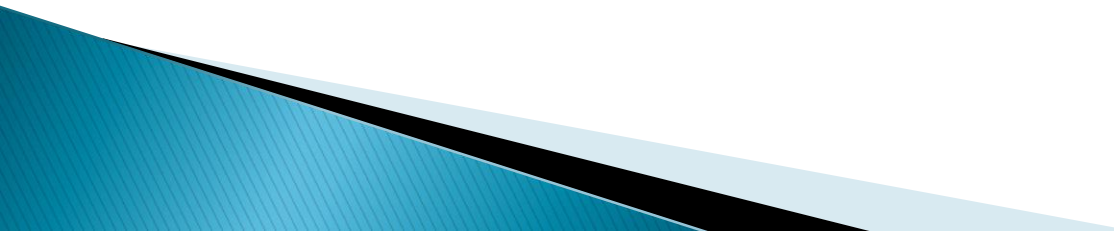
## Deicing Program Notification

- Once an FBO has notified Airport Ops with the need to deice an aircraft, notification is made by Airport Ops to all FBO's and ATCT





# Snow Removal Summary

- Reviews conducted after each event
  - Goal is to measure the snow removal efforts from the customer's perspective
  - Specifics from each event are presented at the monthly Manager's meetings from November through April
- 

**Please email any questions to  
[tle@panynj.gov](mailto:tle@panynj.gov)**



# Takeoff and Landing Performance Assessment (TALPA)

## A New Process for Determining Runway Conditions

Presented to: Air Traffic Services Facilities

By: Terminal Standards & Procedures

Date: October 1, 2016



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# December 8, 2005 – SWA 1248



**A Boeing 737 experienced an overrun at Chicago Midway Airport, which resulted in a non-passenger fatality.**

**The FAA and NTSB determined that procedures to assess runway contamination required improvements. TALPA was created to reduce further risk of runway overrun accidents/incidents caused by weather and other factors.**



# Background

- **The FAA established a workgroup to review related FAA regulations, policies, and industry practices in an effort to develop mitigation strategies designed to reduce and eliminate these occurrences.**
- **The workgroup found deficiencies in multiple areas, most notably in the lack of a standardized method to assess landing performance during arrival.**
- **Through testing and evaluation, the workgroup developed a new process for reporting runway conditions based on contaminant type and depth. This new process is called Takeoff and Landing Performance Assessment (TALPA).**
- **TALPA provides information to help the pilot anticipate aircraft braking performance.**



# TALPA

- **Standardizes how Airports and Air Traffic Control communicate actual runway conditions to the pilots in terms that directly relate to how a particular aircraft is expected to perform.**
- **Airport operators will use the Runway Condition Assessment Matrix (RCAM) to categorize runway conditions; pilots will use it to interpret reported runway conditions.**
- **Introduces new Field Condition (FICON) NOTAM process. Contaminants are assessed in thirds of a runway (Touchdown, Midpoint, and Rollout).**
- **Airport Operations, using the contaminants from the RCAM, enters these assessments into the Federal NOTAM System (FNS).**



# TALPA

- **RwyCCs are replacing *Mu* numbers, which will no longer be published in the FAA's NOTAM system.**
- **Two new categories are being introduced into existing braking action phraseology- “Good to Medium” and “Medium to Poor.” Additionally, the term “Fair” is being replaced with “Medium”.**
- **Nil conditions on ANY paved runway surface require the closure of that surface by airport operations. These surfaces must not be re-opened until the airport operator is satisfied that the NIL braking condition no longer exists.**



# Runway Condition Assessment Matrix (RCAM)

The RCAM is a process of describing runway conditions based on defined terms and increments. Runway conditions on the RCAM Matrix are expressed numerically from 0-6 and are known as a **runway condition code (RwyCC)**.

*Note: The Federal NOTAM System prohibits the use of "0" in a FICON NOTAM. ATC reportable values are 1-6.*

## RwyCCs replace Mu values

RwyCCs are disseminated to pilots via FICON NOTAMs and ATIS broadcasts. Pilots use the RwyCC to determine landing performance calculations.

*Note: The RCAM table is strictly for use by Airport Operations personnel and not ATC.*

Assessment Criteria		Control/Braking Assessment Criteria	
Runway Condition Description	RwyCC	Deceleration or Directional Control Observation	Pilot Reported Braking Action
<ul style="list-style-type: none"> <li>Dry</li> </ul>	6	---	---
<ul style="list-style-type: none"> <li>Frost</li> <li>Wet (Includes damp and 1/8 inch depth or less of water)</li> </ul> 1/8 inch (3mm) depth or less of: <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
-15°C and Colder outside air temperature: <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	4	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> Greater than 1/8 inch (3 mm) depth of: <ul style="list-style-type: none"> <li>Dry Snow</li> <li>Wet Snow</li> </ul> Warmer than -15°C outside air temperature: <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
Greater than 1/8 inch(3 mm) depth of: <ul style="list-style-type: none"> <li>Water</li> <li>Slush</li> </ul>	2	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
<ul style="list-style-type: none"> <li>Ice</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</li> <li>Slush over Ice</li> <li>Water over Compacted Snow</li> <li>Dry Snow or Wet Snow over Ice</li> </ul>	0	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil





# 1. Braking Action Categories

OLD	NEW
Good	Good
	Good to Medium
Fair	Medium
	Medium to Poor
Poor	Poor
Nil	Nil



## 2. From Mu to RwyCC

OLD	NEW
<p data-bbox="198 334 875 511">Mu values are included in the ATIS broadcast. Reportable values range from 0 thru 40.</p> <p data-bbox="198 668 755 776">Each runway third has a reportable value.</p> <p data-bbox="198 876 510 919">e.g., 34/34/33</p>	<p data-bbox="952 334 1671 576"><b>Runway Condition Codes (RwyCC) will be included in the ATIS with reportable values ranging from 1 thru 6.</b></p> <p data-bbox="952 662 1682 839"><b>Each runway third (Touchdown, Midpoint, Rollout) will have a reportable value.</b></p> <p data-bbox="952 868 1186 911">e.g., 5/5/4</p>
JO 7110.65, para 3-3-4d1	JO 7110.65, para 3-3-4d1



# 3. Field Condition Assessments

OLD	NEW
Runway Condition Reading	Runway FICON NOTAM
<p>A reading is obtained by airport management and relayed with numerical Mu values. These are disseminated to pilots by air traffic control via ATIS broadcast with braking or friction reports and cause.</p> <p>e.g., RWY 16, 32/32/30, snow.</p>	<p>A Runway FICON NOTAM comes from a Runway Condition Report obtained by Airport Operations and provides runway condition codes (RwyCC's) from contaminant types and depth. RwyCCs are identified by the RWY on which the assessment was made.</p> <p><b>NOTE: RwyCCs <u>are</u> reversible.</b></p> <p>e.g., RWY 16, 2/3/4 RWY 34, 4/3/2</p>
JO 7110.65, para 4-7-12c.	JO 7110.65, para 4-7-12c.



# 4. Braking Action by Airport Ops

OLD	NEW
<p>Currently, airport operations can determine braking action on runways if there are no recent pilot reports.</p>	<p><b>Airport Operations will no longer determine braking action on paved runways. They will continue to determine braking action conditions on taxiways, aprons, and non-paved runways.</b></p>



# ***How To Read A FICON NOTAM***

***NOTE - Issued only on Pilot Request, workload permitting***



# Example 1: RwyCC and ONE contaminant per third

## FICON NOTAM

!BOS 01/023 BOS RWY 27 FICON 3/2/2 75 PRCT COMPACTED SN, 100 PRCT 2 IN SLUSH, 100 PRCT 2 IN SLUSH OBSERVED AT 1602211330.

- **SAMPLE PHRASEOLOGY**

*“BOS Runway 2-7, Field Condition, Three-Two-Two, **Touchdown** - Seventy-five percent Compacted Snow; **Midpoint** - One-hundred percent, Two inches Slush; **Rollout** - One-hundred percent, Two inches Slush. Observed at 1-3-3-0 Zulu.”*

- **MANDATORY ATIS ENTRY:**

*Runway 2-7, Condition Code 3-2-2, at 1330Z.*

**Key**

*3/2/2 = RwyCC*

*NOTE: RwyCC will only be listed if average **total runway** coverage is greater than 25%  
Touchdown, Midpoint, and Rollout = The 3 zones of the runway being assessed in thirds*



## Example 2: FICON NOTAM with no RwyCC and ONE contaminant per third

### FICON NOTAM

!BOS 01/026 BOS RWY 27 FICON, 10 PRCT ICE, 10 PRCT 1/8 IN DRY SN, 10 PRCT 1/8 IN DRY SN OBSERVED AT 1602211630.

- **SAMPLE PHRASEOLOGY**

*“BOS Runway 2-7, Field Condition, **Touchdown** - Ten percent ice; **Midpoint** - Ten percent, One-eighth inch Dry Snow; **Rollout** - Ten percent, One-eighth inch Dry Snow. Observed at 1-6-3-0 Zulu.”*

- **MANDATORY ATIS ENTRY:**

*Not required.*

**Key**

*No RwyCC*

*NOTE: No RwyCCs listed since average total coverage is **not** greater than 25%.*



# Example 3: SLIPPERY WHEN WET

## FICON NOTAM

!BOS 01/026 BOS RWY 09/27 FICON 3/3/3 SLIPPERY WHEN WET  
OBSERVED AT 1602211430

- **SAMPLE PHRASEOLOGY**

*“BOS runway 2-7, field condition, three-three-three, SLIPPERY WHEN WET.  
Observed at 1-4-3-0 Zulu.”*

- **MANDATORY ATIS ENTRY:**

RWY 2-7 CONDITION CODE 3-3-3, AT 1430Z

*NOTE: Identify the active runway when inputting information on the d-ATIS.*

SLIPPERY WHEN WET is the only contaminant that is reported using both runway designators.

When rubber is on any portion of a runway surface, the entire surface is reported as SLIPPERY WHEN WET.





# RwyCC & FICONS

## FICON NOTAM

!TEB 01/023 TEB RWY 19 FICON 3/2/2 75 PRCT COMPACTED SN, 100 PRCT 2 IN SLUSH, 100 PRCT 2 IN SLUSH OBSERVED AT 1602211330.

**Current ATIS broadcast will only include the RwyCC not the FICON.**

**Pilots must request the FICON, Controllers will issue on a workload permitting basis.**

**Controllers will make a blanket broadcast when a new ATIS is made to alert pilots to obtain the updated information.**

**BRAX will be issued the same way it was issued prior to these changes using the new categories, ie. GOOD, GOOD TO MEDIUM, POOR etc. (not the number values).**



# Review of TALPA changes

- **New braking action categories**
- **RwyCC replaces *Mu***
- **New FICON NOTAM format**
- **RwyCC only provided when average total percentage of entire runway coverage is greater than 25%**
- **SLIPPERY WHEN WET designation- (AC150/5200-28F)**
- **Rubber contamination is determined by Airport Operations.**

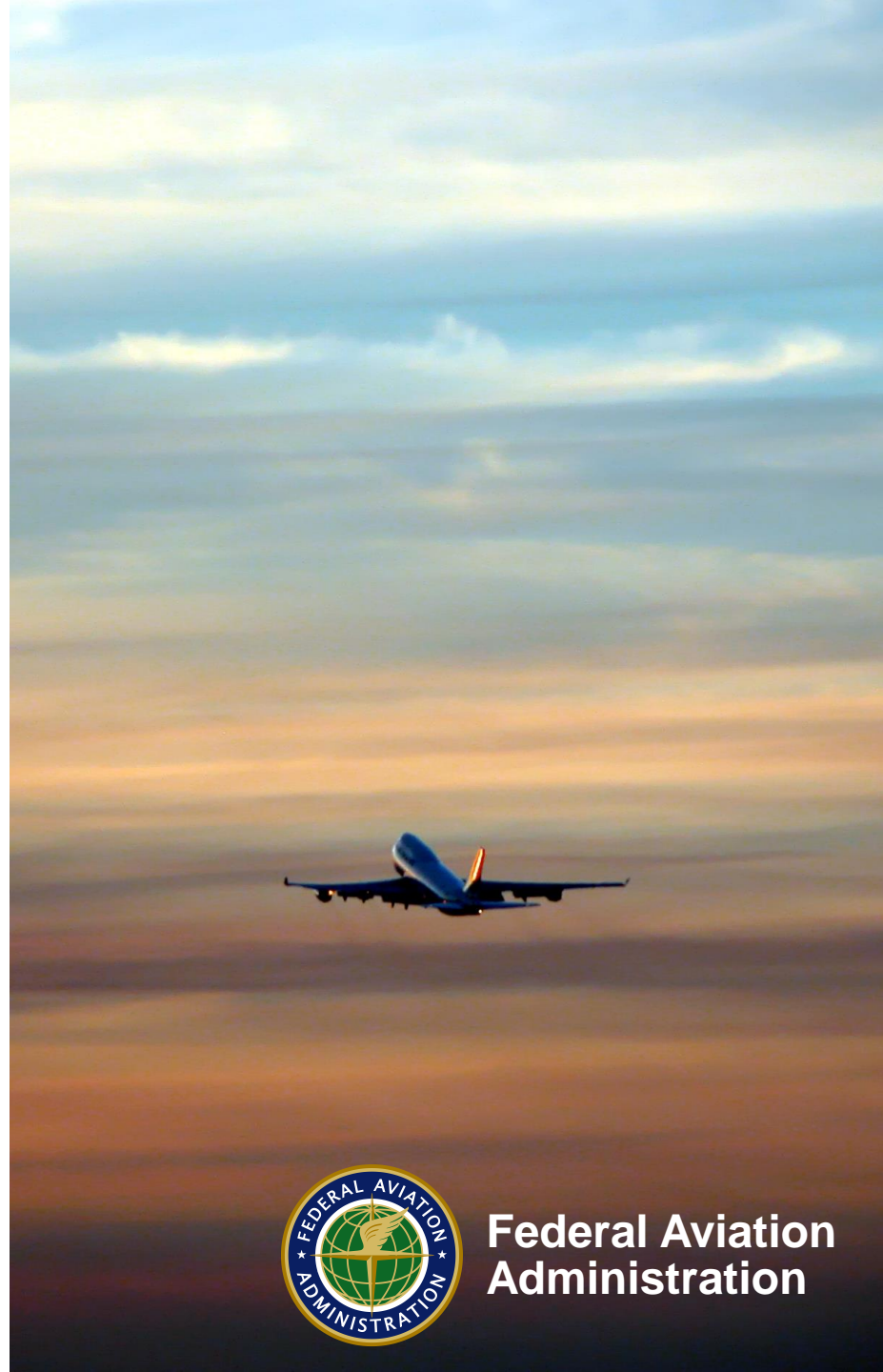


# Take Off and Landing Performance Assessment (TALPA) Update

Presented to: TEB Users Group (TUG)  
By: Tom Lahovski, AFS-280, Air Carrier  
Date: Training & Voluntary Safety Prgms.  
October 26, 2016



Federal Aviation  
Administration



# TALPA scope



## ➤ Airplane Operators.

- For *any* airplane operating on a contaminated (paved) runway.
- May conduct TALPA performance assessments (for landing and/or departing) on a voluntary basis.
  - Not regulatory
  - Decision-supporting, not decision-making
  - If TALPA doesn't specifically address a situation, operate as before.



# Flt. Stds. Guidance on TALPA

- **Published:**

- AC 91-79A: Mitigating the Risks of a Runway Overrun Upon Landing (revised 4/28/2016)
- FAA Order 8900.1 Vol. 4, Chap. 3, Sec. 1 – Guidance to ASIs and operators on developing TALPA procedures and computations.
- Notice 8900.375, Procedures for Reducing the Risk of Runway Overrun (TALPA)
- SAFO 16009, Runway Assessment and Condition Reporting, Effective October 1, 2016



# AC 91-79A, rev. 1, April 28, 2016

- Provides operators with detailed information to develop company standard operating procedures (SOP) and training programs related to TALPA.
- Provides ways for pilots and airplane operators to identify, understand, and mitigate risks associated with runway overruns during the landing phase of flight.
- Principal source of TALPA guidance for Part 23 aircraft
  - Part 23 rewrite precludes providing TALPA guidance at this time.



# FAA Order 8900.1, Vol. 4, Chap. 3, Sec. 1, July 18, 2016

- **Provides Operations Inspectors with guidance for accepting/approving (GOM/Trng. Prgms.):**
  - Best Practices for Takeoff
  - Best Practices for Landing Distance Assessments
  - Generic factors to apply to available data if appropriate performance data not available
  - Best Practices for procedures and training in short field situations



# Notice 8900.375, Procedures for Reducing the Risk of Runway Overrun (TALPA) – Aug. 1, 2016

- **Provides guidance to FAA inspectors on accepting TALPA procedures in General Operations Manuals (GOMs) and approving training programs.**





# SAFO 16009, Runway Assessment and Condition Reporting, Published August 24, 2016

- **Notifies operators, pilots, training providers and other personnel of changes in runway condition reporting when a runway is other than dry, Effective October 1, 2016.**
- **Provides a list of reference documents for TALPA.**



# Additional TALPA Documents

- **N JO 7930.107, Field Condition (FICON) NOTAM Reporting**
- **Safety Alert for Operators (SAFO) 06012, Landing Performance Assessments at Time of Arrival (Turbojets);**
- **AC 25-31 - Takeoff Performance Data for Operations on Contaminated Runways;**
- **AC 25-32 - Landing Performance Data for Time-of-Arrival Landing Performance Assessments;**
- **AC 150/5200-30D, Airport Field Condition Assessments and Winter Operations Safety**
- **Aeronautical Information Manual (AIM);**
- **Aeronautical Information Publication (AIP);**



# For Training Purposes Only

- **Refer to official FAA documents for the latest and most up-to-date official guidance**



# Summary

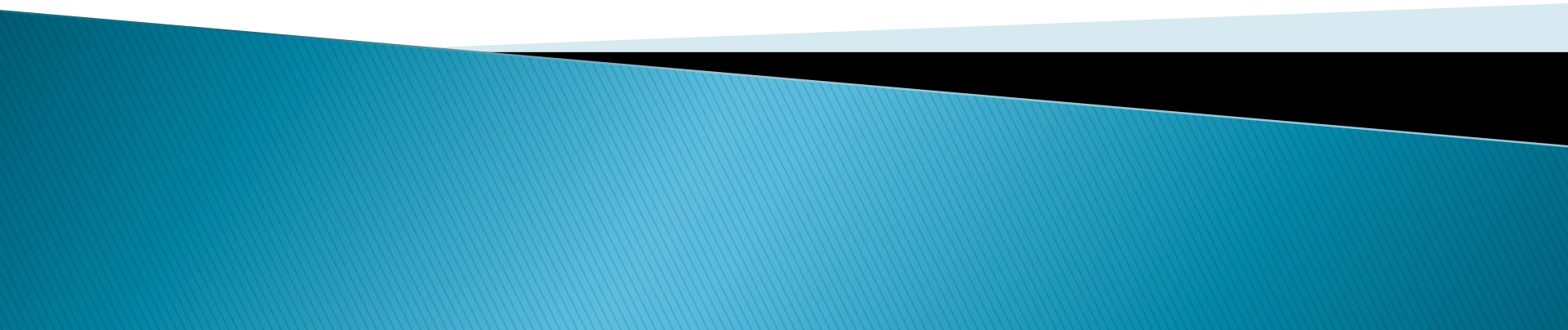
- TALPA Website:
  - <http://www.faa.gov/about/initiatives/talpa/>
- Comments, Questions on TALPA:
  - TALPA e-mail address: [9-awa-TALPA@faa.gov](mailto:9-awa-TALPA@faa.gov)
- For Airplane Operators, **TALPA is Decision-Supporting, not Decision-Making.**
- **Pilots: You get numbers (RwyCCs), you give braking action reports (words) only.**



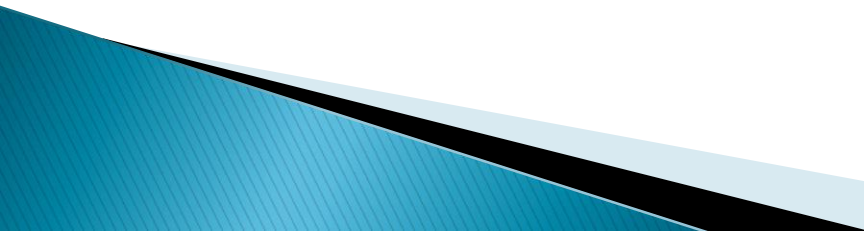
# TALPA

## Takeoff & Landing Performance Assessment

### Impact to Airport Snow & Ice Control



# Background

- ▶ Goal was to reduce the risk of runway overrun accidents & incidents due to runway contamination
  - ▶ AC 150/5200-30D (*Airport Field Condition Assessments & Winter Operations Safety*) incorporates many of the recommendations of this committee
  - ▶ On 10/01/2016, all US airports began using the new TALPA guidelines
- 

# Key Changes

- ▶ Standardized terms for contaminants and the decommissioning of terms such as ‘patchy’, ‘trace’, and ‘thin’
- ▶ Airport operators may continue to conduct runway friction surveys (as part of runway condition assessment), the dissemination of friction Mu values via the NOTAM system will **no longer be acceptable**
- ▶ Airports are now **highly encouraged** to report a ‘Wet Runway’ when more than 25% of the runway surface is covered by visible dampness or water (1 / 8” or less in depth)

# Runway Condition Assessment Matrix (RCAM)

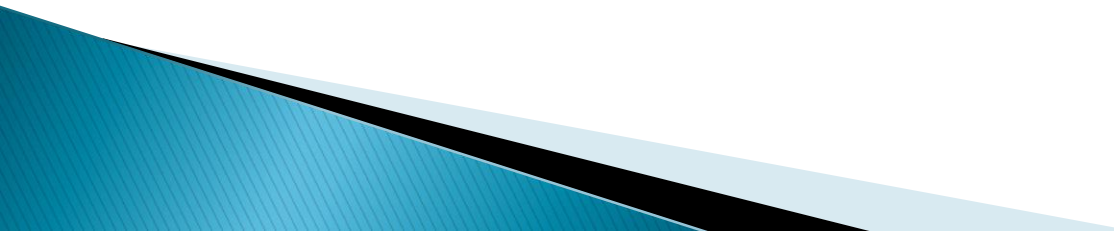
- ▶ Replaces subjective judgements of runway conditions with objective measurements and assessments based on:
  - Runway Contaminant Coverage
  - Type of Contaminant
  - Depth of Contaminant
  - Outside Air Temperature (OAT)
- ▶ Four factors are critical for aircraft take-off and landing performance



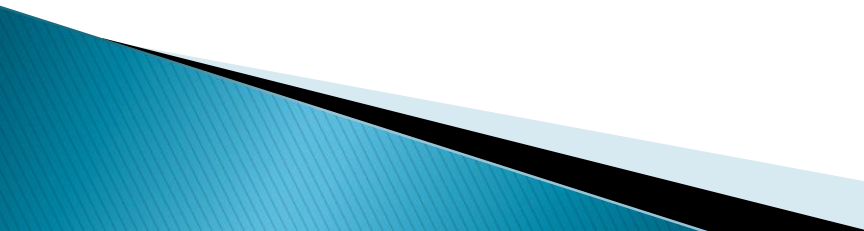
# Runway Condition Assessment Matrix (RCAM)

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> <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>5° F (-15°C) and Colder outside air temperature:</b></p> <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> <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 5° F (-15°C) outside air temperature:</b></p> <ul style="list-style-type: none"> <li>Compacted Snow</li> </ul>	3	to 30	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	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	to 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</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

# Runway Condition Assessment Matrix (RCAM)

- ▶ More objective method of reporting runway surface conditions
    - Tied directly to contaminant type and depth categories
  - ▶ These categories have been determined by aircraft manufacturers to cause specific changes in aircraft takeoff, landing and braking performance
- 

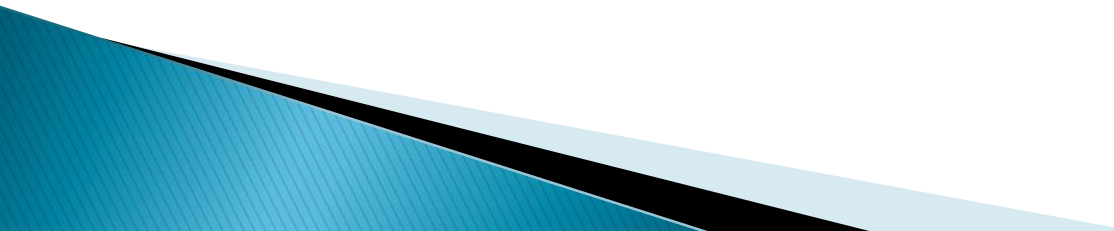
# Runway Condition Assessment Matrix (RCAM)

- ▶ Flight crews can better correlate reported runway surface conditions to contaminated landing performance data supplied by aircraft manufacturer
  - ▶ Flight crews will receive runway surface condition reports in a consistent and standardized format from all airports
  - ▶ Flight crews will have more detailed info to make operational decisions
- 

# Runway Condition Assessment Matrix (RCAM)

- ▶ RCAM is the method that airport operators will use to report runway surface conditions
- ▶ RCAM identifies the factors that influence aircraft take-off and landing performance
  - Particularly aircraft braking performance
  - Relates these factors to Runway Condition Codes (RwyCC) which then can be used by flight crews to interpret the runway conditions as they relate to aircraft performance

# Runway Condition Codes (RwyCC)

- ▶ RwyCC are codes generated for each runway third and will allow pilots to interpret the runway condition in a standardized format based on aircraft performance data
  - ▶ RwyCC is only generated when contaminants are present on **greater than 25%** of the maintained portion of the runway surface
- 

# Outside Air Temperature (OAT)

- ▶ Used to determine the correct RwyCC for Compacted Snow when:
  - OAT is above 5°F (−15°C)
  - OAT is 5°F (−15°C) or colder
- ▶ Airport Operators should exercise a heightened frequency of runway assessments if temperatures are near freezing and warmer 26.6°F (−3°C)

# FICON NOTAMS

!TEB XX/XXX TEB RWY 6 FICON 5/5/5 100 PRCT  
1/8IN DRY SN OBSERVED AT 1610101916.  
1610101856-1610111856

- Dry snow is falling
- Rwy 6 is 100% covered with up to 1/8 inch dry snow
- OAT 18°F

# FICON NOTAMS

!TEB XX/XXX TEB RWY 19 FICON 3/3/3 75 PRCT  
1/4IN WET SN DEICED LIQUID 100FT WID  
OBSERVED AT 1610121752. 1610121751-  
1610131751

- Rwy 19 is 75% covered with wet snow
- Rwy 19 was de-iced 100 FT wide (liquid) full length at 1752Z
- OAT 29°F



# FICON NOTAMS

!TEB XX/XXX TEB RWY 19 FICON 2/2/2 100  
PRCT 1/4IN SLUSH OBSERVED AT 1610101904.  
1610101856-1610111856

- Wet snow is falling
- Rwy 19 is 100% covered with up to ¼ inch slush
- OAT 32°F

# FICON NOTAMS

!TEB XX/XXX TEB RWY 24 FICON 5/5/5 50 PRCT  
WET OBSERVED AT 1610101922.

1610101922-1610111922

- Light rain is falling
- Rwy 24 is 50% covered wet
- OAT 56°F

Please email any questions to [tle@panynj.gov](mailto:tle@panynj.gov)  
or

Comments, questions on TALPA:

TALPA e-mail address: [9-awa-TALPA@faa.gov](mailto:9-awa-TALPA@faa.gov)

# Pilots Deicing Responsibilities

Larry Brady,  
KTEB FAA ATCT Operations Support Specialist

# Pilot's Deicing Responsibilities

- ▶ In order for the TEB Formal Deicing Program (FDP) to be in effect, freezing/frozen precipitation must be in progress.
- ▶ Fixed Based Operator (FBO) during an Event and prior to deicing notifies Airport Operations of their intentions to deice; unless a FDP is already in effect.
- ▶ Airport Operations advises all FBOs: **“A Formal Deicing Program Is Now In Effect”**.
- ▶ First step for pilots: A Pilot makes a request to FBO for deicing “during an Event”.

# Pilot's Deicing Responsibilities

- ▶ The Rate of Departures will be based on the intensity, type of precipitation, surface conditions and the number of runways in use during the event.
  - 6 minutes between departures = 10 departures per hour
  - 5 minutes between departures = 12 departures per hour
  - 4 minutes between departures = 15 departures per hour
  - 3 minutes between departures = 20 departures per hour
- ▶ Arrival rate will be adjusted to manage the above departure rates.
- ▶ Prior to Deicing an A/C, the Ramp Boss shall ensure that the Pilot & A/C has:
  1. IFR clearance: After receiving their clearance, Pilots are requested not to contact TEBT until after their deicing has been completed.
  2. All passengers & crew are on board.
  3. All baggage and fuel have been loaded.
  4. And except for deicing, the A/C is in a ready to taxi status.

# Pilot's Deicing Responsibilities

- ▶ Note: Pilots should obtain their IFR clearance as soon as available. If an Expect Departure Clearance Time (EDCT) is issued, the Pilot will inform the Ramp Boss of this departure restriction. The Ramp Boss shall make every effort to comply with this restriction by adjusting the Deicing lineup so that the A/C can depart at the issued time. EDCT is a wheels up time.
- ▶ Prior to deicing, TEBT will verify the departure's destination is accepting traffic and is good to go.

# Pilot's Deicing Responsibilities

- ▶ The Ramp Boss will inform TEB ATC of any A/C on their ramp who does not require deicing and is ready for departure.
- ▶ TEB ATC will make every attempt to accommodate the request without penalizing any FBO or previously sequenced A/C.
- ▶ The Ramp Boss will advise/signal the Pilot when deicing is complete.
- ▶ After deicing is complete, Pilots will contact Ground Control when ready to taxi.
- ▶ The use of type IV fluid, although increasing the time parameter for departures, will not alter the initial prerequisites of this procedure. What type IV fluid does offer is the ability to have A/C safely waiting for departure. By taking advantage of any missed departure or arrival slots, type IV has the potential of increasing the total number of hourly departures.



# Pilot's Deicing Responsibilities

- ▶ Should a Runway closure occur stopping departures, a Deicing pause will take effect. Expect a Deicing restart to be initiated prior to the Runway reopening.
- ▶ Times will change but the sequence will remain the same.
- ▶ Airport Operations, as the official weather observers on the Airport, will coordinate with TEBT when the active freezing/frozen precipitation event has ended thereby canceling the Formal Deicing Program. A/C may continue to be deiced and if the demand warrants, Gate Hold procedures may remain in effect; however, the Formal Program will be terminated.
- ▶ Operations will inform the FBOs when the Formal Deicing Program has ended.
- ▶ TEBT will also announce on all active frequencies when the FDP has ended

Please email any  
questions to  
[tlee@panynj.gov](mailto:tlee@panynj.gov)

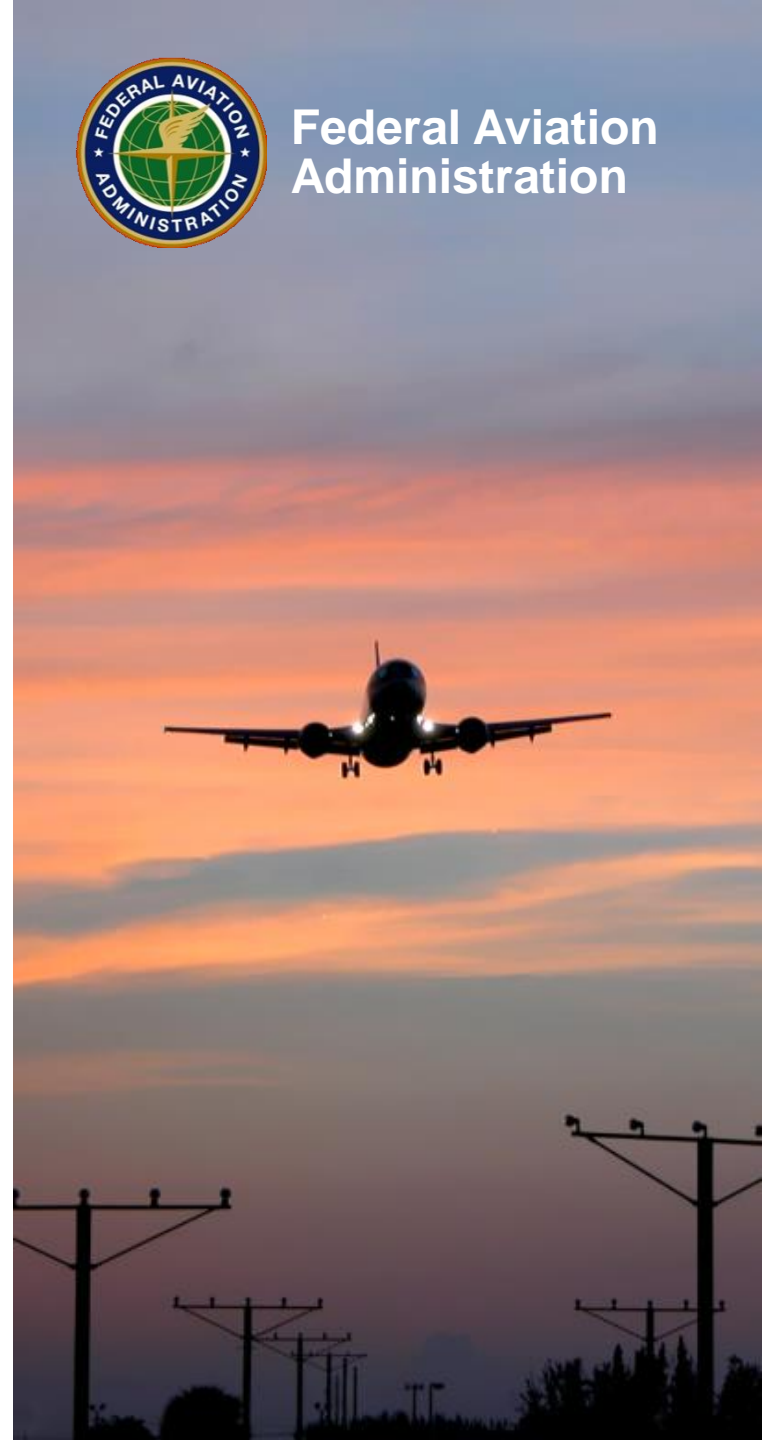
**Runway  
Safety  
Action  
Team**

**2016**

Gary A. Palm ATM Teterboro ATCT



Federal Aviation  
Administration



# ERROR TYPES

## **Pilot Deviation** (60%)

- Crossing Hold Line without clearance
- Landing on wrong runway/closed runway
- Landed/departed without a clearance

## **Operational Incident** (20%)

- Arrival/Departure separation loss
- Readback/Hearback errors

## **Vehicle/Pedestrian Deviation** (20%)

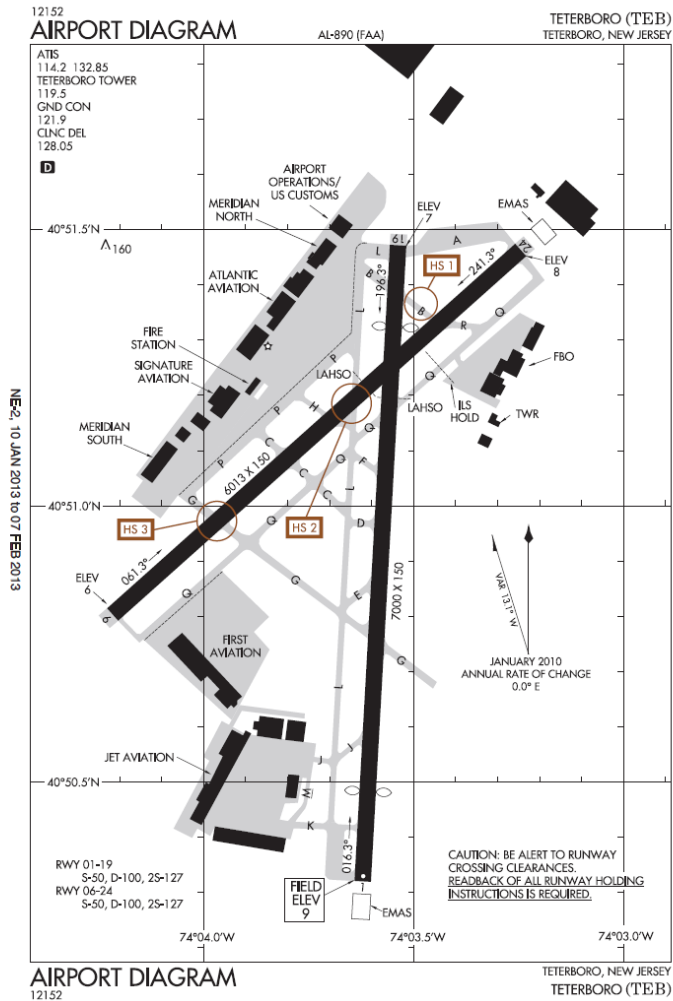
- Entered or crossed runway from taxiway without clearance
- Pedestrian entered taxiways/ramp without communication/authorization

# INCIDENTS

<u>Year</u>	<u>#of total incidents</u>	<u>Taxiway “B” incidents</u>
2011	4	0
2012	9	2
2013	5	3
2014	9	2
2015	3	0

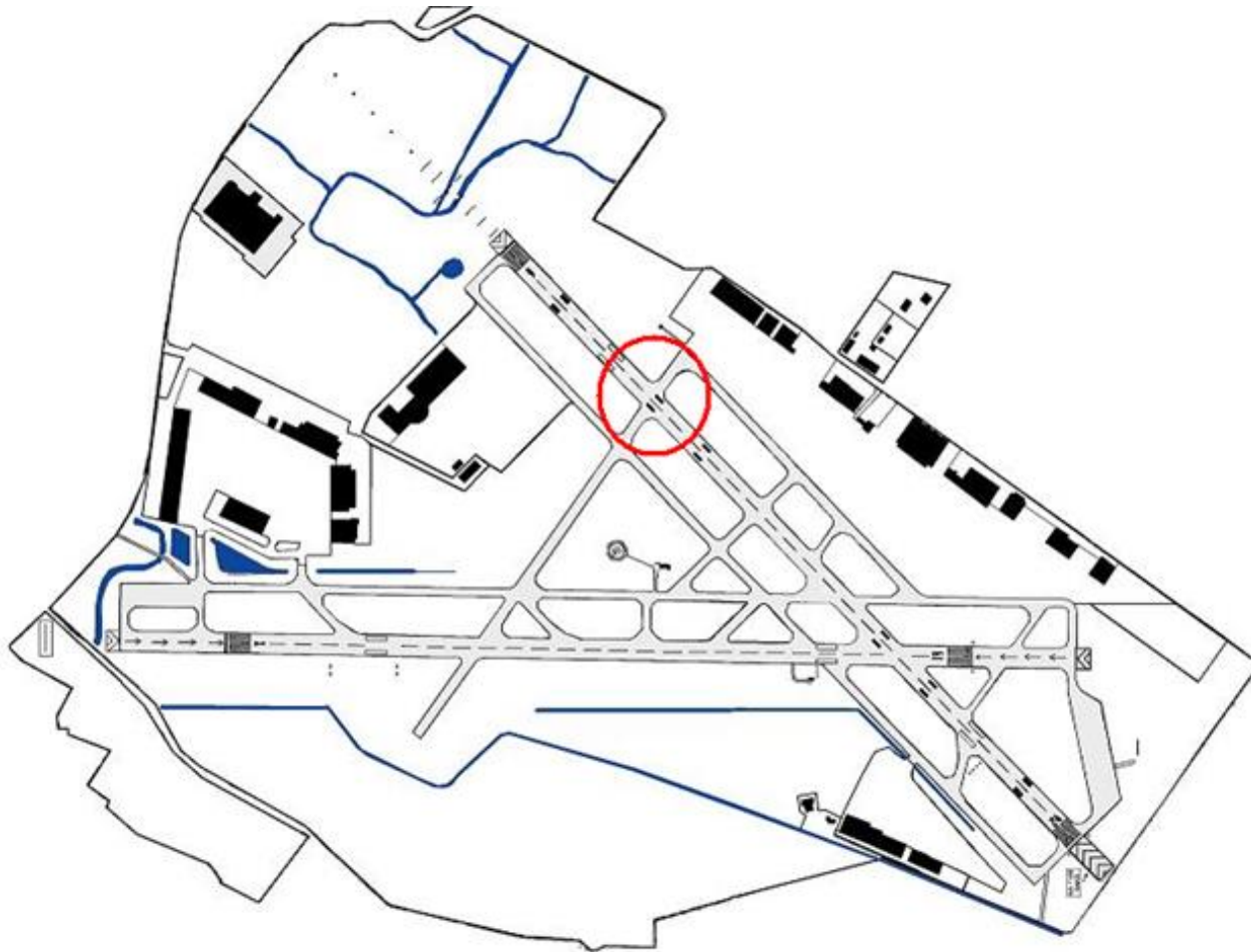


# HOT SPOT REVIEW

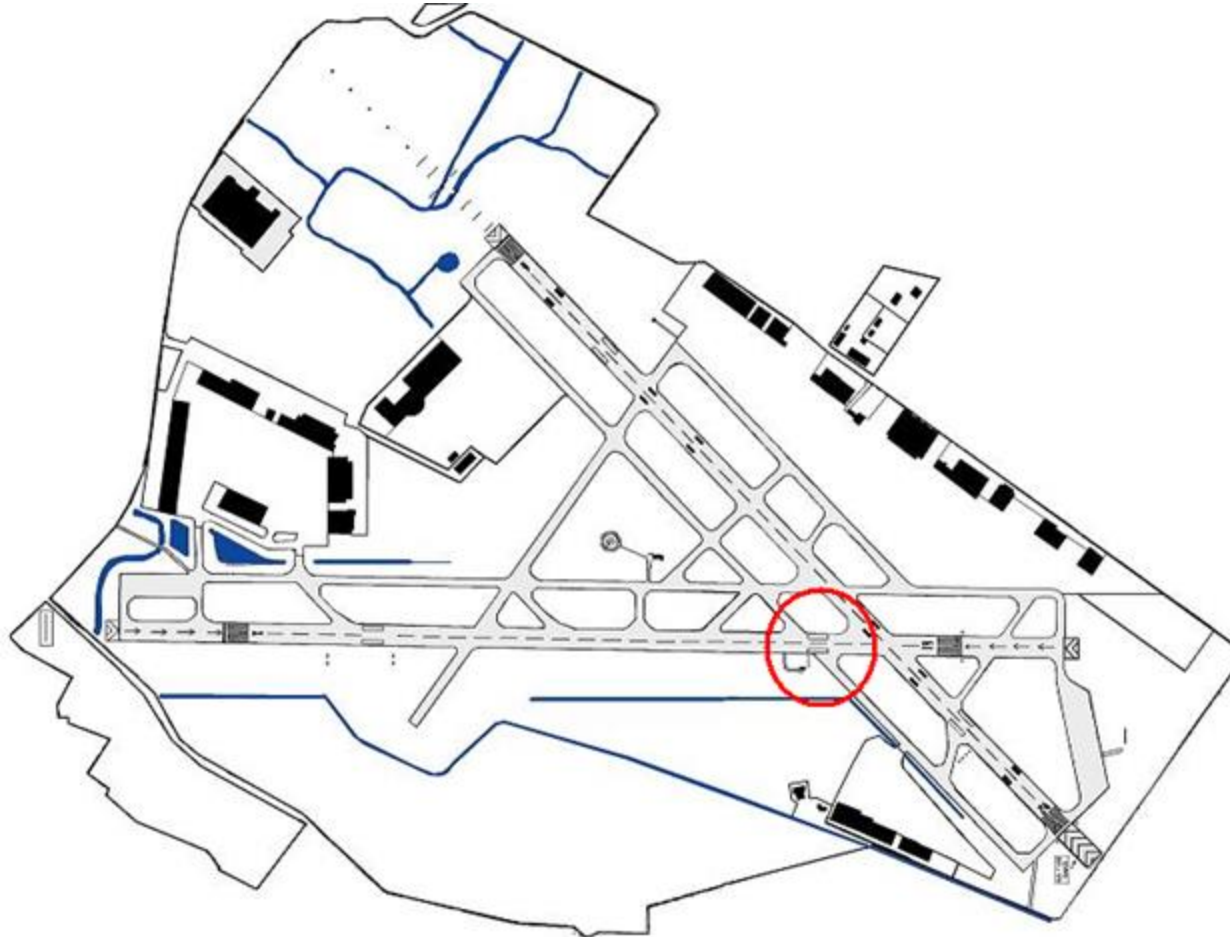


EXTRA VIGILANCE  
Required by ALL!

# RUNWAY 6 & TAXIWAY G

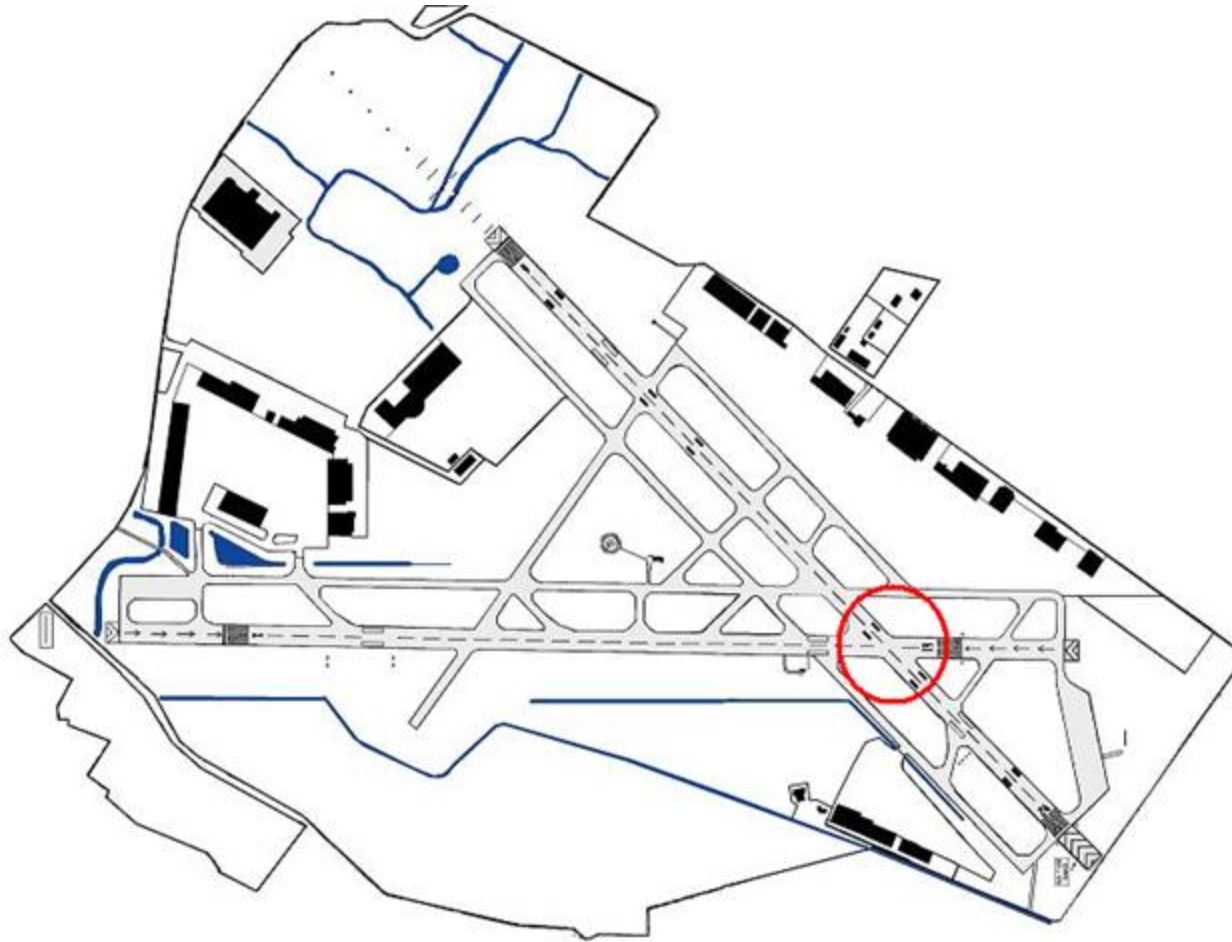


# RUNWAY 19 & TAXIWAY Q

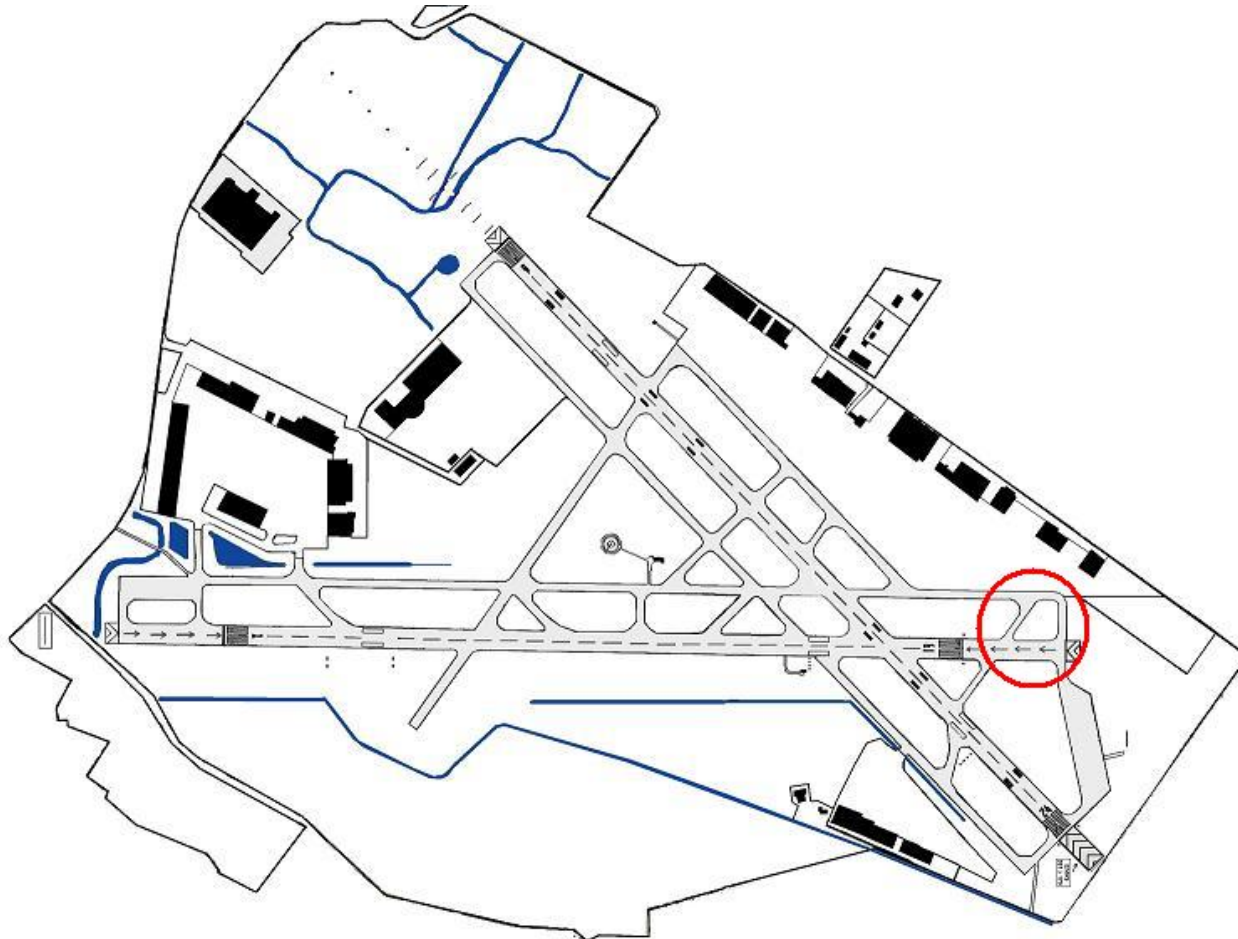




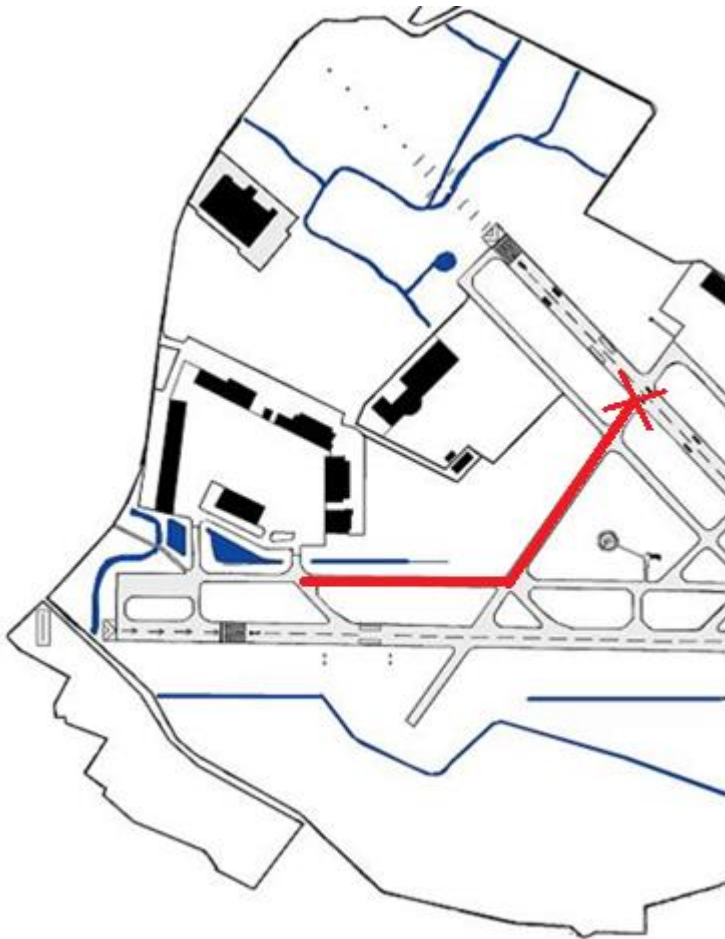
# RUNWAY 1 & RUNWAY 6



# RUNWAY 19 & TAXIWAY L



# TEB Surface Incident Records FY 2015-1

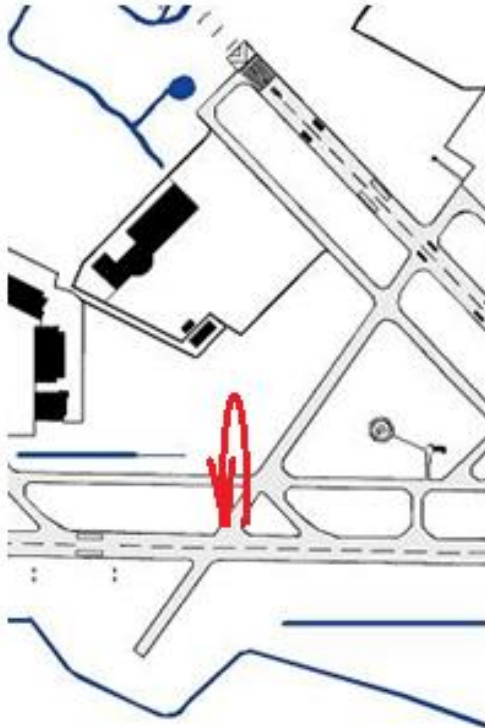


ACFT 1 upon exiting Runway 19 at Taxiway Juliet was issued Taxi Instructions to taxi via Taxiway Lima and Golf, hold short Runway 24. ACFT 1 read back the instructions without using the aircraft call sign. ATC requested ACFT 1 read back the hold short instructions. ACFT 1 read back the instructions correctly. ACFT 2, C-750 was on the departure roll on Runway 24. As ACFT 1 was approaching the hold short line for 24 the

Ground Controller realized the aircraft was not slowing down, and told ACFT 1 to hold short of Runway 24 as ACFT 1 passed the Runway 24 hold short lines.

ACFT 1 read back, "holding short". ACFT 1 stopped in the safety area but did not cross the Runway 24 edge marking. The closest proximity between the departing aircraft and the taxiing aircraft was approximately 225 feet.

# TEB Surface Incident Records FY 2015-2

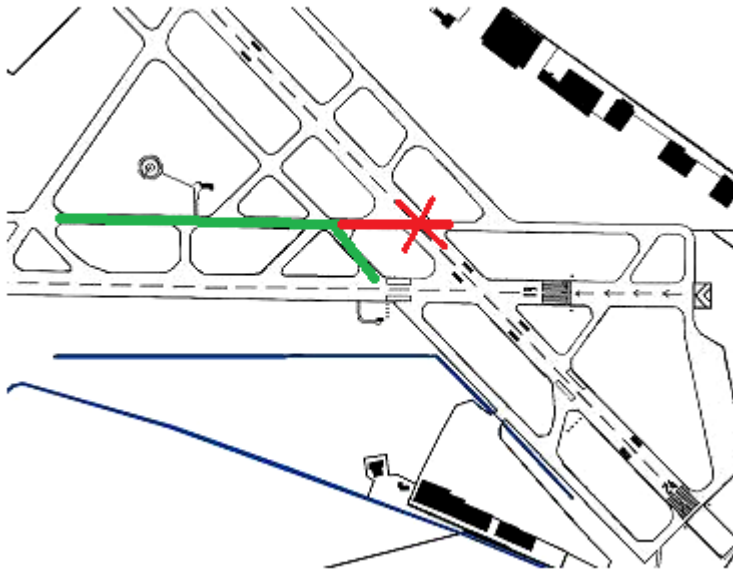


On January 20, 2015 at approximately 1803 Local time ACFT 1, a B-36T, was an IFR arrival to Runway 19 and exited at taxiway Golf westbound. The Ground Controller first instructed the aircraft to taxi to parking (Landmark, southwest area of the airport) via taxiway Golf and hold short of Runway 24. Realizing the aircraft did not need to cross Runway 24, Ground Control amended the instructions and instructed the aircraft to proceed via taxiway Golf then taxiway Quebec.

ACFT 1 then made a 180 degree turn on taxiway Golf and proceeded eastbound towards Runway 19. ACFT 1 crossed the Runway hold short markings

ACFT 2, a Runway 19 arrival, reported when passing taxiway Golf there was an aircraft nearly on the Runway. ACFT 1 was instructed to exit the Runway and return to taxiway Golf. (Night time operation)

# TEB Surface Incident Records FY 2015-3



ACFT 1 was issued a clearance to taxi straight ahead on taxiway Lima, turn right on taxiway Quebec and hold short of Runway 19. ACFT 1 readback taxi and hold short instructions correctly.

ACFT 1 continued on taxiway Lima and crossed Runway 24

which caused the Local Controller to cancel the take off clearance for ACFT 2 on Runway 24.

# 2015 Causal Factors

- **Causal Factors: ALL INCIDENTS**
- > CRM
- > Awareness
- Or....distracted, unfamiliar, equipment issues or combinations (links in the chain).
- No one asked for assistance.
- Controller missed read-back (contributing?)

*Continuous issues each year*

# 2015 -2016 RSAP Accomplishments

- Re-configure taxi Bravo. **Job to be bid 2nd Qtr 2017.**
- Continue efforts to improve emergency response operations. **Continuous Monthly testing/practice.**
- Develop & add to Tower Training Simulator (TSS): unexpected vehicle/aircraft operations. **Incorporated into the TSS program.**
- Perimeter road under construction and use procedures under development. **\* Operational June 1, 2016 (South End Only)**
- Continue efforts to reduce vehicle runway crossings and sustain zero incident base-line. **Twy Bravo procedure successful.**

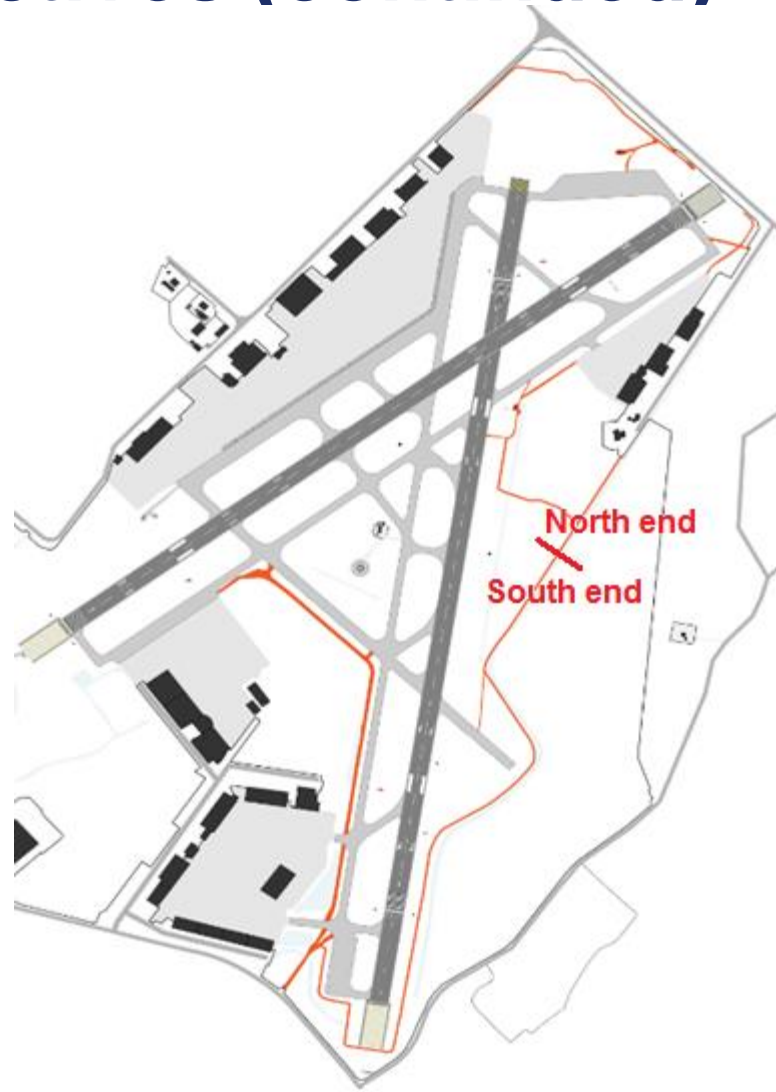
## 2015 RSAP Objectives (review)

- **Implemented new ATC procedures for TWY Bravo on January 18, 2015.**
  - **When landing RWY 6 and departing RWY 1.**
  - **Arrivals destined for West side of airport are instructed to exit at the end of RWY 6. (Into TWY 'A' and the ALPHA PAD).**
  - **ATC is requesting pilots plan no delay on the runway after landing to assist in expediting traffic.**
  - **These procedures were made permanent July 2015.**
  - **Since inception: ZERO Runway incursions.**

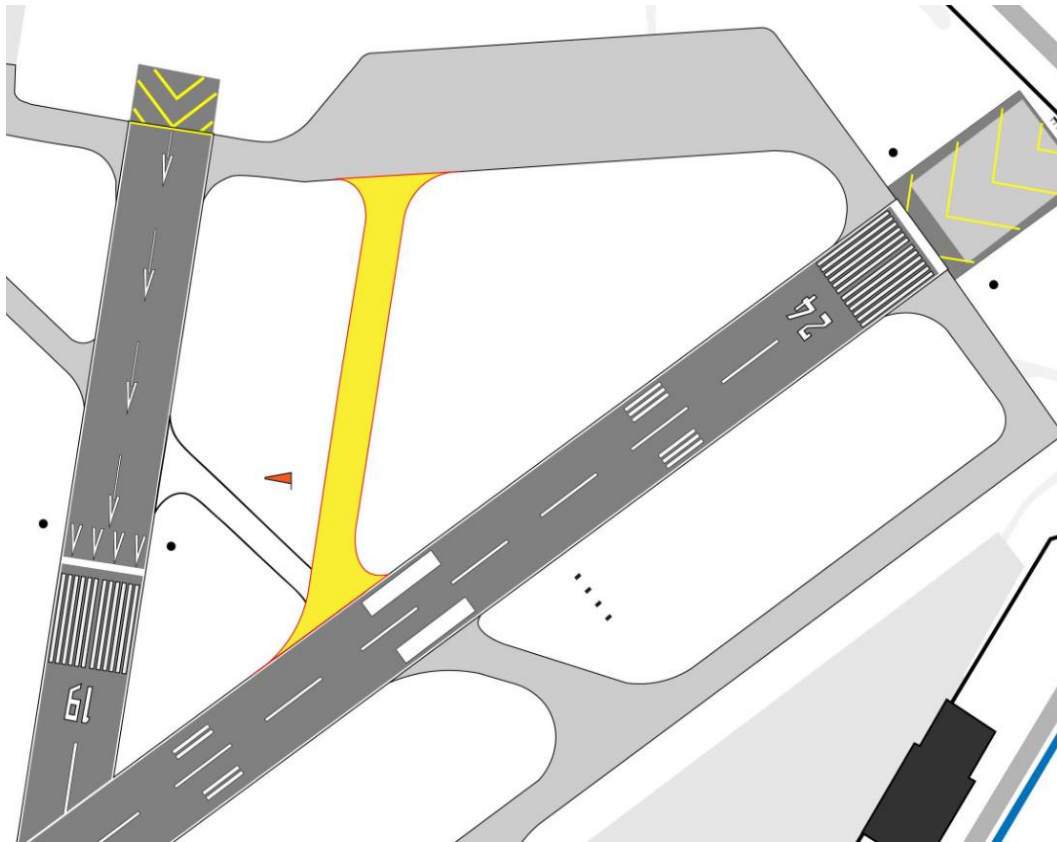


# 2016 RSAP Objectives (continued)

- **Develop final phase (North end) of the perimeter road construction & ATC procedures.**
- **South end completed and in use.**
- **Restricted to OPS & FAA vehicles.**



# 2017 PROJECT TWY B / V



## PROJECT DATES

Bid February 2017

Construction 2017

# Conclusion

**We continue to work on increasing safety and eliminating the causal factors that contribute to unsafe events; improving procedures, airport design, training and awareness programs however, we must work together as a team and make every effort to reach a ZERO incident(s) goal **and sustain it.****

**Your input is a vitally important catalyst for change.**

**Take action, submit ideas, report issues and never assume someone else will take corrective measures or fix the problem.**

# Pilot Feedback/Discussion

- Does the ATCT do anything that could make taxi, landing or takeoff more difficult for pilots?
- Is there anything that can be done to make things better and safer?
  - Voice cadence too fast?
  - Late runway and/or routing changes?
  - Too many instructions at once?
  - Inconsistent use of hold short?
  - Gives instructions during difficult phase of flight?

# ATC Feedback/Discussion

- Is there anything that pilots do that can make the ATC job more difficult?
  - Failure to readback call sign or full taxi & hold short instructions.
  - Failure to identify location.
  - Not requesting detail instructions when unfamiliar.
  - Blocking an active taxiway without receiving taxi instructions.

# Open discussion of problems

- Surface safety problems
- Signage or lights difficult to see
- Communications problems
- Areas where pilots ask for help
- ATCT requests that are difficult for pilots
- Any areas on the airport where weather could impact surface safety
  - Water ponding and covering markings
  - Sun conditions making visibility difficult (see next slide)

# Best Practices for Safe Surface Movement

- Review taxi routes on Airport Diagrams. (Keep updated chart/diagrams readily available)
- Listen carefully to taxi Instructions, also ATIS and NOTAMs (construction, closed rwys, etc.)
- Identify critical times and locations on taxi routes (eg. complex intersections, crossing rwys, Hot Spots, etc.)
- Minimize cockpit workload during taxi operation
- Advise ATC immediately if unable to comply with runway exiting instruction
- Be ALERT to Similar Call Signs (A397U vs. A379U)

# Helpful web site and email address

## Construction status Web Site:

- <https://nfdc.faa.gov/xwiki/bin/view/NFDC/Construction+Notices>
- Use the Chrome browser for better viewing

## FAA's Airport Construction Advisory Council email address:

- [Constructioncouncil@faa.gov](mailto:Constructioncouncil@faa.gov)



# Runway Safety Action Team Meeting Feedback

<https://ksn2.faa.gov/atos/Home/ajs4/agl/Shared Documents/RSAT Resources/Runway Safety Action Team Meeting Feedback Form.pdf>

This file includes fillable form fields.  
You can print the completed form and save it to your device or Acrobat.com.

Highlight Existing Fields Submit Form

Fill & Sign Tools

- Add Text
- Add Checkmark
- Place Initials
- Place Signature

Send or Collect Signatures

Work with Certificates

### Runway Safety Action Team Meeting Feedback

I attended a:  Local RSAT  Regional RSAT

Airport:

Date:

I am a: (check all that apply)

<input type="checkbox"/> Pilot	<input type="checkbox"/> Mechanic (taxi)	<input type="checkbox"/> Line / FBO employee
<input type="checkbox"/> Driver	<input type="checkbox"/> Mechanic (tug/tow)	<input type="checkbox"/> Wildlife control worker
<input type="checkbox"/> Controller	<input type="checkbox"/> Airport operations employee	<input type="checkbox"/> Other <input type="text"/>

Rating: 5-Strongly Agree 4-Agree 3-Neutral 2-Disagree 1-Strongly Disagree

Performance Item	Rating (1-5)	Comments
I (or my organization) received adequate notification of the RSAT meeting.		
I (or my organization) was provided adequate opportunity to express concerns and provide input on runway safety issues.		
I (or my organization) felt that the RSAT meeting was well organized and that relevant information was shared with all stakeholders.		
Overall impression of the RSAT meeting / general comments.		
What is the ONE thing that would have made this meeting better?		

*If you would like to be contacted by the Runway Safety office, please send your feedback / questions in an email to [7-agl-runway-safety@faa.gov](mailto:7-agl-runway-safety@faa.gov)*

When you have completed the form, please click the submit button to email it to our office. Alternately, you may print the completed form and mail it to: Federal Aviation Administration, Office of Runway Safety, 490 L'Enfant Plaza, Suite 7225, Washington, DC 20024 or FAX to 202-385-4772.

This file includes fillable form fields. You can print the completed form and save it to your device or Acrobat.com

Use the button in the upper right to Submit the form

Please email any questions to  
[tleee@panynj.gov](mailto:tleee@panynj.gov)

# GBAS Update

Ralph Tamburro, Delay Reduction  
Project Manager, Port Authority of NY &  
NJ, Aviation Dept.

# Ground Based Augmentation System, GBAS

- NEWARK has a fully operational GBAS system which will be upgraded later this year, pending board approval, to include SBAS allowing for a CAT II approach on a CAT I system
- Systems for JFK, LGA and TEB are in the capitol plan for all the airports
- United and Delta conducted a demo operation in SFO to show the capabilities of the system. The demos were designed in conjunction with ATC. The designs included approaches to runways that currently do not have a precision approach and also noise abatement. Results of the demo are still being finalized
- Have begun discussion for a possible demo here in the NY airspace
- Honeywell has a GLS equipped FALCON that we may be able to utilize in the demo

# FBO RAMP GRIDLOCK PROCEDURE

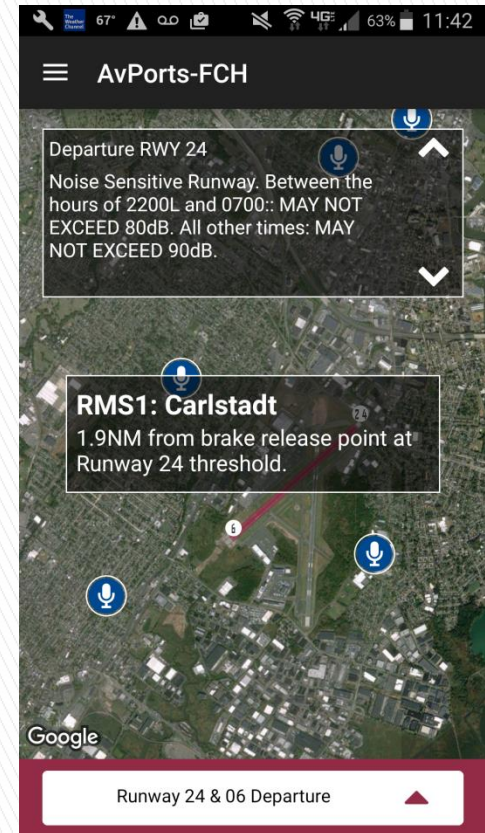
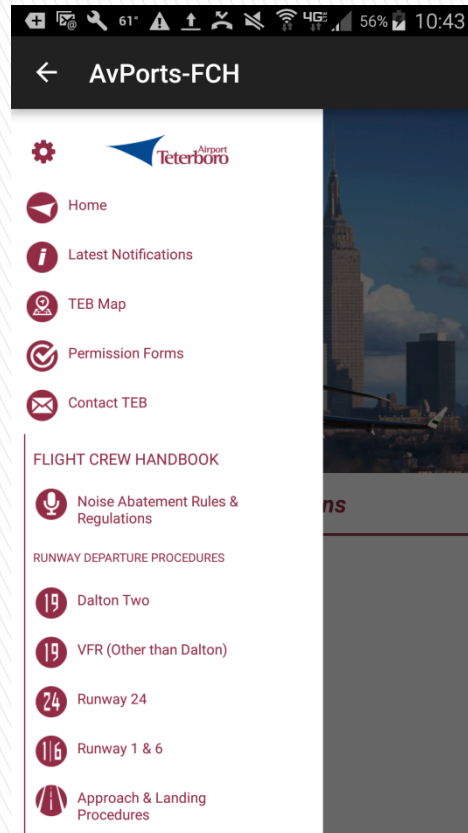
- ▶ In an attempt to coordinate limited ramp space during periods of high volume, the airport has implemented a test procedure:
- ▶ **Gridlock: space is constrained to only a few parking spaces remaining.**
- ▶ When ramp space is severely constrained at a particular FBO(s) all aircraft destined for one of those FBO's will be instructed by ATC to taxi to a holding point on the AOA and contact the FBO prior to arrival acceptance. The FBO will advise the pilot of availability of parking and/or expected delay. If the FBO cannot accept the aircraft, the pilot will be advised to contact Airport Operations (130.575) for alternate FBO options.
- ▶ **IT IS MOST HELPFUL IF YOUR FBO OF CHOICE KNOWS IN ADVANCE OF YOUR ARRIVAL!**

# TEB APP

Gabriel Andino, Noise Abatement &  
Environmental Compliance Manager, KTEB

# Flight Crew Handbook Mobile App

- ▶ Flights crews can now download the TEB Flight Crew Handbook to any Apple or Android device.
- ▶ The new app will feature noise abatement and operational info for TEB users.
- ▶ Frequent updates and notifications will help keep your pilots up to date on the latest at TEB.



Please email any  
questions to  
[tlee@panynj.gov](mailto:tlee@panynj.gov)



# Upcoming Issues & Spring Webinar Items

- ▶ Spring Webinar: Fuel Spill Prevention, ARFF, Construction, Other suggestions?
- ▶ NTSB Victim & Family Assistance Workshop
  - April 12, 2017

Email comments, questions and requests for invite to NTSB Workshop to [tle@panynj.gov](mailto:tle@panynj.gov)

# FINAL NOTES

Follow up questions–Please email [tle@panynj.gov](mailto:tle@panynj.gov)

Next Webinar–Spring 2017, please submit agenda suggestions to Pam Phillips at [pwalden@panynj.gov](mailto:pwalden@panynj.gov)

Helpful websites:

<http://www.faa.gov/about/initiatives/talpa/>

TALPA e-mail address: [9-awa-TALPA@faa.gov](mailto:9-awa-TALPA@faa.gov)

<https://nfdc.faa.gov/xwiki/bin/view/NFDC/Construction+Notices>

<https://ksn2.faa.gov/atos/Home/ajs4/agl/Shared Documents/RSAT Resources/Runway Safety Action Team Meeting Feedback Form.pdf>

<https://www.youtube.com/watch?v=gDKuPB2I0UA>

<http://nbaa.org>

<http://teterborousersgroup.org>

# Questions & Answers

- ▶ Q: Will you be adding the same transitions to the RNAV 19 approach as you are doing to the RNAV/ILS 19?
- ▶ A: Yes, they will be the same transitions to both RWY19 procedures.

# Questions & Answers

- ▶ Q: What was the “rubber contamination conducted by airport ops” meaning again?
- ▶ A: **Reporting Wet Runways:**
- ▶ TEB will report a wet runway condition when more than 25% of the runway surface is covered by visible dampness or water (1/8” or less in depth). This will occur throughout entire year and is not limited to snow operations. The airport will report via the NOTAM system a RwyCC of ‘5/5/5’ for the entire runway (by thirds) when the runway is wet.
- ▶ **Slippery When Wet:**
- ▶ For runways where a friction survey (for the purposes of pavement maintenance) indicates the averaged Mu value at 40 mph on the wet pavement surface failed to meet the minimum friction level classification specified in AC 150/5320-12, the airport will report via the NOTAM system a RwyCC of ‘3/3/3’ for the entire runway (by thirds) when the runway is wet. A runway condition description of ‘Slippery When Wet’ will be used for this condition. The NOTAM will be cancelled when the minimum runway friction level classification has been met or exceeded.
- ▶ **NOTE: Based on the friction surveys for TEB regarding pavement maintenance, TEB exceeded the minimum friction level classification specified in AC 150/5320-12, therefore the “SLIPPERY WHEN WET” condition will not be reported at TEB.**
- ▶ TEB has a runway rubber removal program that should ensure that TEB Airport exceeds the criteria specified in AC 150/5320-12.