

Runway Safety and Pedestrian – Ground vehicles/ Public Protection

Presented at the Aerodrome
Certification Workshop in
Dominican Republic

Presented by: FAA



Presentation overview

- **139.329: Pedestrian and Ground Vehicles**
- **Definition of runway incursion**
- **Initial and recurrent training for persons driving on movement area**
- **Ground vehicles**
- **Documentation**
- **139.333: Protection of NAVAIDS**
- **139.335: Public Protection**

Requirements under 139.329

- **Limit access to movement areas and safety areas**
- **Orderly access to Movement Areas and Safety Areas. Penalties for noncompliance**
- **When ATCT is in operation, control of personnel or equipment in MA/SA by radio, escort, signs and signals**
- **When ATCT is NOT in operation prearrange procedures to use radio, signals (CFTA)**
- **Drivers training program**
- **Maintain records for:**
 - a) **Description and date of training for people who access Movement Areas. Maintain record for 24 months**
 - b) **Accident or incidents involving air carrier, ground vehicle or pedestrian. Maintain record for 12 months after the accident /incident**

Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



- **Limit the number of airport tenant personnel authorized to operate a vehicle on the movement area and safety areas to only those that have a definite need per 139.329(a).**



- **Personnel who do not regularly drive on the movement area are not going to be as proficient as regular drivers and are more likely to commit a V/PD.**

Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



- **Review procedures for access onto the AOA by City emergency vehicles, especially during airport emergencies. The drivers of these vehicles are usually not familiar with airport procedures and infrequently operate at the airport.**
- **During AEP reviews include escort/route procedures.**

Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations

Airline/FBO Personnel on Remote Deicing Pads



Snow Removal By Contractors or Other City Department Personnel



Personnel who only operate on the movement area during seasonal times of the year, should receive recurrent training just prior to that seasonal period. Special procedures for seasonal operations, such as mowing, snow removal and aircraft deicing, should also be reviewed just prior to those operations.

Part 139.329 Pedestrian and Ground Vehicle Operations Requirements

- Comprehensive pedestrian/ground vehicle training program
 - Train all personnel who access the movement area and safety area
 - Recurrent training every 12 months
 - Keep records for 24 months
- Limit access to movement areas and safety areas
- Consequences of noncompliance
- It is highly recommended that General Aviation airports with an ATCT also establish a pedestrian/ground vehicle training program



Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



- **Airport Operators should require vehicle operators to use existing service roads rather than crossing a runway.**
- **Perimeter service roads should be high on improvement project lists.**

Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



Service roads that enter runways should have signs installed at the boundary of the runway safety area to help prevent inadvertent entry on an active runway. Reference AC 150/5340-18F (Sign systems), figure 14

Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



- **Vehicles equipped with beacons/flashing lights**
- **Keep Headlights operating on the AOA for improved visibility to pilots**
- **Vehicle inspection procedures should be in place. Reference AC 150/5210-20, Ground Vehicle Operation on Airports**

Airport Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



- **Construction activity provides a much higher risk of pedestrian and ground vehicle deviations**
- **Construction Safety Phasing Plans must reference driver training, barricade, etc. Procedures. Reference AC 150/5370-2e, Operational Safety on airports during construction**
- **Airport operators should implement extra measures to prevent V/PDs during construction projects and closely monitor construction activity.**

Airport Construction Barricades



Barricades look the same when they are used to keep aircraft out of closed areas and construction vehicles out of active movement areas. AC 150/5370-2E currently recommends that barricades be spaced no greater than 20 feet apart.

Requirements under 139.335

- **Prevent inadvertent entry by pedestrian/vehicles in MA/SA**
- **Reasonable protection of pedestrian and vehicles from aircraft blast**
- **Fencing required by applicable TSA regulation. This fence will satisfy “139.335(a)(1)”**

Vehicle Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



Silt fencing can also be used as an effective method to identify construction limits and prevent runway incursions from construction activity.

Vehicle Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



Use headsets while operating loud equipment so as to better hear ATC communications.

Vehicle Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



Airport maintenance and operations vehicles should have an outside speaker for times when personnel are outside the vehicle.

Vehicle Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



When escorting vehicles on the movement area, brief vehicle operators prior to entering the movement area to ensure that drivers absolutely do not pass the lead vehicle at any time while on the movement area.

Requirements under 139.333

- **Prevent construction of facilities that would derogate the operation of NAVAIDS or VISAIDS. This is done thru airspace studies**
- **Protect against vandalism and theft**
- **Prevent interruption of NAVAIDS and VISAIDS**

Definition of a Runway Incursion

A runway incursion is any unauthorized intrusion onto a runway, regardless of whether or not an aircraft presents a potential conflict.

- **Vehicle/Pedestrian Deviation (V/PPD)** - *Any entry or movement on the movement area by a vehicle (including aircraft operated by non-pilots) or pedestrian that has not been authorized by air traffic control.*
- *Operational Incident- ATCT*
- *Pilot Deviation*

Vehicle/Pedestrian Deviations (V/PD)



A vehicle or pedestrian crossing holding position marking or entering a runway, without ATCT authorization, is a runway incursion.

Holding Position Signs and Markings

Types of Holding Position Signs



Holding position sign
on Taxiway B1



Holding position sign
on a runway



ILS/POFZ holding position sign



Runway approach surface holding
position sign

Holding position signs identify the boundary of Runway Safety Areas (RSA), Obstacle Free Zones (OFZ), runway approaches, Precision Obstacle Free Zones (POFZ) and Instrument Landing System (ILS) critical areas. These signs are red with white legend and are considered critical for safety.

Runway Incursion Severity Categories

Runway incursions are classified with respect to the severity.

Category A	Most severe and a collision was narrowly avoided
Category B	Significant potential for collision, which may result in time critical corrective/evasive response to avoid a collision
Category C	Ample time and or/distance to avoid a collision
Category D	No immediate safety consequences
Category E	Least severe & due to insufficient or inconclusive evidence cannot assign another category

What happens when a V/PD occurs

1. **FAA Completes Form 8020-24, *Preliminary V/PD Deviation Report*.**
2. **FAA Airport Certification Safety Inspector issues a Letter of Investigation (LOI) to the airport operator.**
3. **The airport operator investigates the incident, initiates corrective actions as appropriate, and responds to the FAA.**
4. **FAA investigates the incident, reviews the airport's ground vehicle program and incident report on the V/PD and past incidents within the last few years.**
5. **The FAA determines appropriate action to take against airport certificate holder. Issues a closeout letter, Warning Letter, Letter of Correction, or initiates civil penalty enforcement action.**



Latest Enhancements FAA's Call to Action at Part 139 Airports

- **Taxiway Centerline Enhanced Markings & Surface Painted Signs installed by December 31, 2010**
- **Require annual recurrent driver training for non-airport employees with movement area driving privileges**

Vehicle Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations



Start looking for holding position marking when you see the enhanced taxiway centerline marking.

Vehicle Operator Actions to Reduce the Potential for Pedestrian and Ground Vehicle Deviations

- **Surface Painted Signs**



Getting the Word Out

- **Problem areas (Hot Spots) on your airport what are you doing to inform vehicle operators and pilots?**
- **Crew Briefing Web Site**
 - Teterboro's Crew Briefing Web Site

<http://www.airportflightcrewbriefing.com/teterboro>

The screenshot shows a software interface for a flight crew briefing. At the top, the title "TETERBORO AIRPORT FLIGHT CREW BRIEFING" is displayed in yellow. Below the title are four main menu items, each with a representative image and a text label: "SAFETY" (with a car on a runway), "SECURITY" (with a security sign), "NOISE ABATEMENT" (with a jet engine), and "ATC PROCEDURES" (with an ATIS tower). To the right of these items is a list of sub-topics: "AIRPORT SAFETY OVERVIEW", "RUNWAY INCURSION HOT SPOTS", "SURFACE AREA MOVEMENT PROBLEMS", and "RECOMMENDED PRACTICES". At the bottom, there is a navigation bar with a close button (X), a title bar "Introduction: Main Menu", and navigation controls (back, forward, and "2 of 2").

TETERBORO AIRPORT FLIGHT CREW BRIEFING

SAFETY

- AIRPORT SAFETY OVERVIEW
- RUNWAY INCURSION HOT SPOTS
- SURFACE AREA MOVEMENT PROBLEMS
- RECOMMENDED PRACTICES

SECURITY

NOISE ABATEMENT

ATC PROCEDURES

Introduction: Main Menu 2 of 2