

Pilot Deviations

Risk Reduction

Presented to: RAA Training Committee

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Federal Aviation
Administration



Pilot Deviations ?

- **What are Pilot Deviations (PDs)?**
 - By definition: *An action of or by a pilot that results in a failure to comply with an ATC clearance and/or instruction*
- **Three General Categories of Pilot Deviations:**
 - *Surface Incidents, AKA: Runway Incursions*
 - *Airspace Violations*
 - *Altitude Violations*



Runway Incursions:

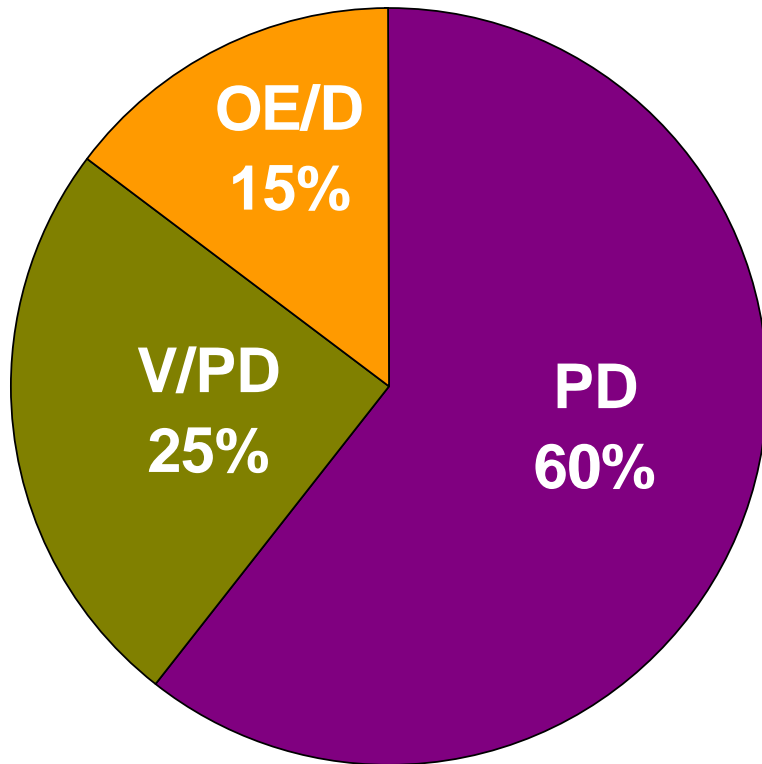
- **Three Categories of Runway Incursion:**

- **Pilot Deviations:** what we're focused on here today

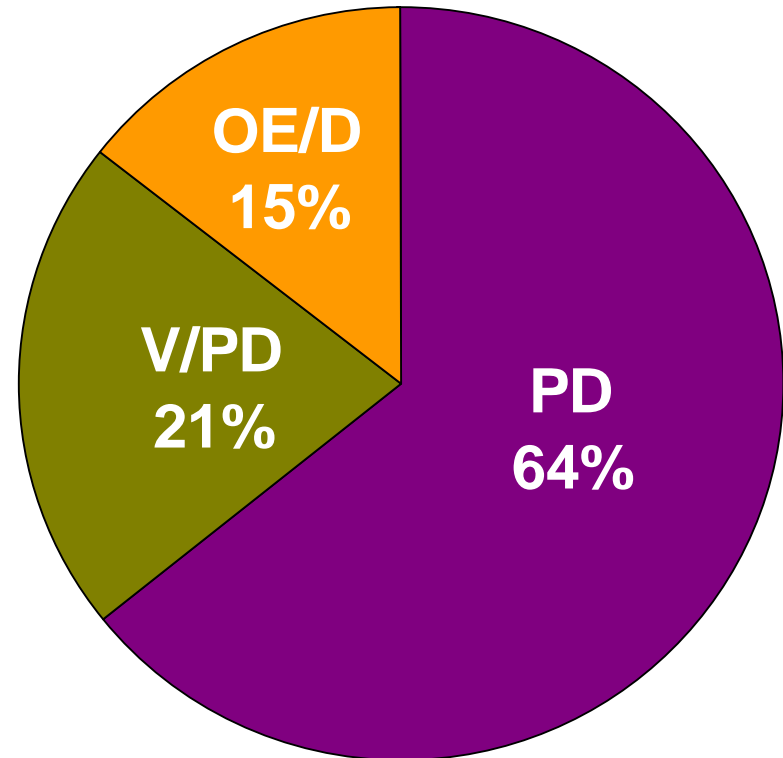
The other two classifications of Runway Incursion include:

- **Operational Error/Deviation:** *The failure of an air traffic controller to follow procedures resulting in loss of separation or instructing an aircraft to takeoff or land on a closed runway.*
- **Vehicle/Pedestrian Deviations:** *Any unauthorized entry to an airport Movement Area by a vehicle or pedestrian or failure to follow procedures and/or Air Traffic Instruction.*

Distribution by Type of Runway Incursions



FY 2004-2007



FY 2008 YTD (06/29/08)

Runway Incursion Stats Apr-Jun only

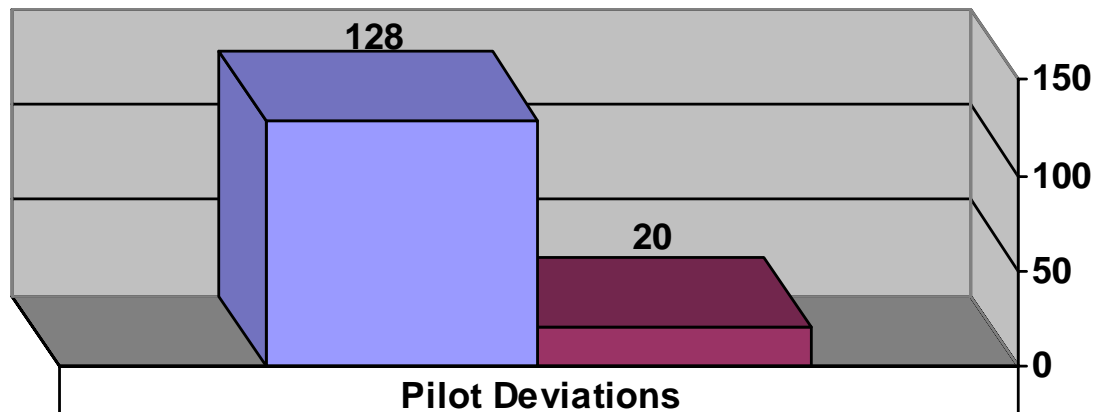
- **269** runway incursions **164** were alleged **PDs**
 - **51** events - pilots entering or crossing runway and hold short lines after reading back hold short instructions
 - **48** events - pilots entering or crossing runway and hold short lines, hold short not required
 - **36** events – pilots landed or departed without clearance
 - **29** events – pilot taxied wrong route and entered runway or crossed hold short lines



Runway Incursion Stats

- **110 (67%) events related to Part 91**
- **49 (30%) events related to Part 121/129/135**
- **5 (3%) events related to Military aircraft**
 - **Time and weather:**
 - **Day/VMC: 150**
 - **Night/VMC: 8**
 - **Day/IMC: 5**
 - **Day/IMC: 1**



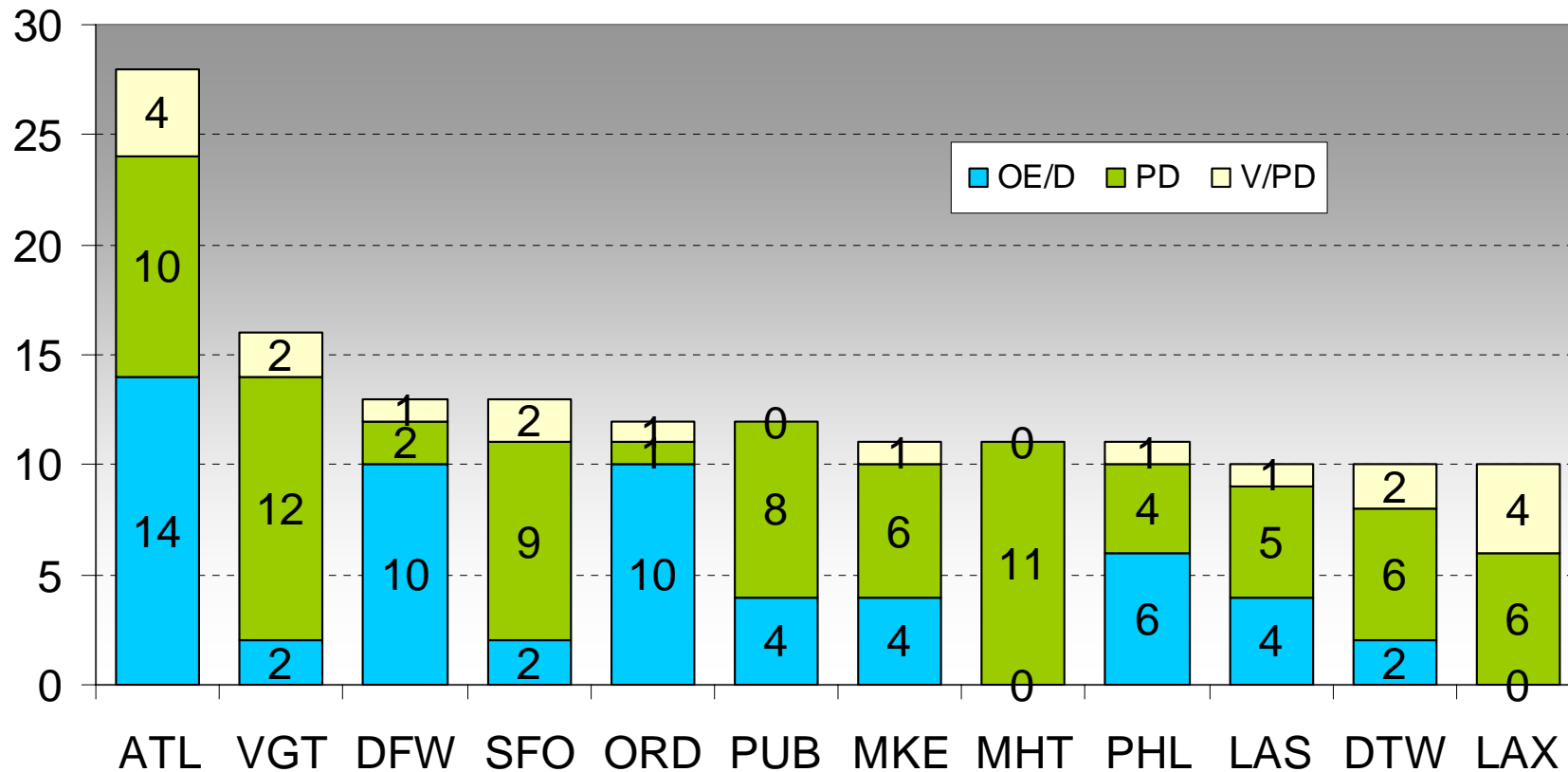
Of the 164 PD's, 148 occurred during taxiing out for departure and taxiing in after landing



 Taxiing out	128
 Landed/taxiing in	20



Runway Incursions for the 12 Airports with Most Runway Incursions for FY08



Data as of Jul 08



Most Common Pilot Errors resulting in a Pilot Deviation

- **Read back the air traffic instruction (for example, to “hold short”) correctly and then did something else**
- **Most common factor cited for losing track of location is that pilot is “heads down” programming FMC, conducting checklists or talking to company/FBO)**

Runway Incursion Challenge

- **64 million landings and takeoffs last year ***
- **18,000 runway crossings per day!**
- **Human error is a certainty**
- **Technology has limitations**
- **Causes – Consequences are global in nature**

Source: * FAA Runway Safety Fact Sheet

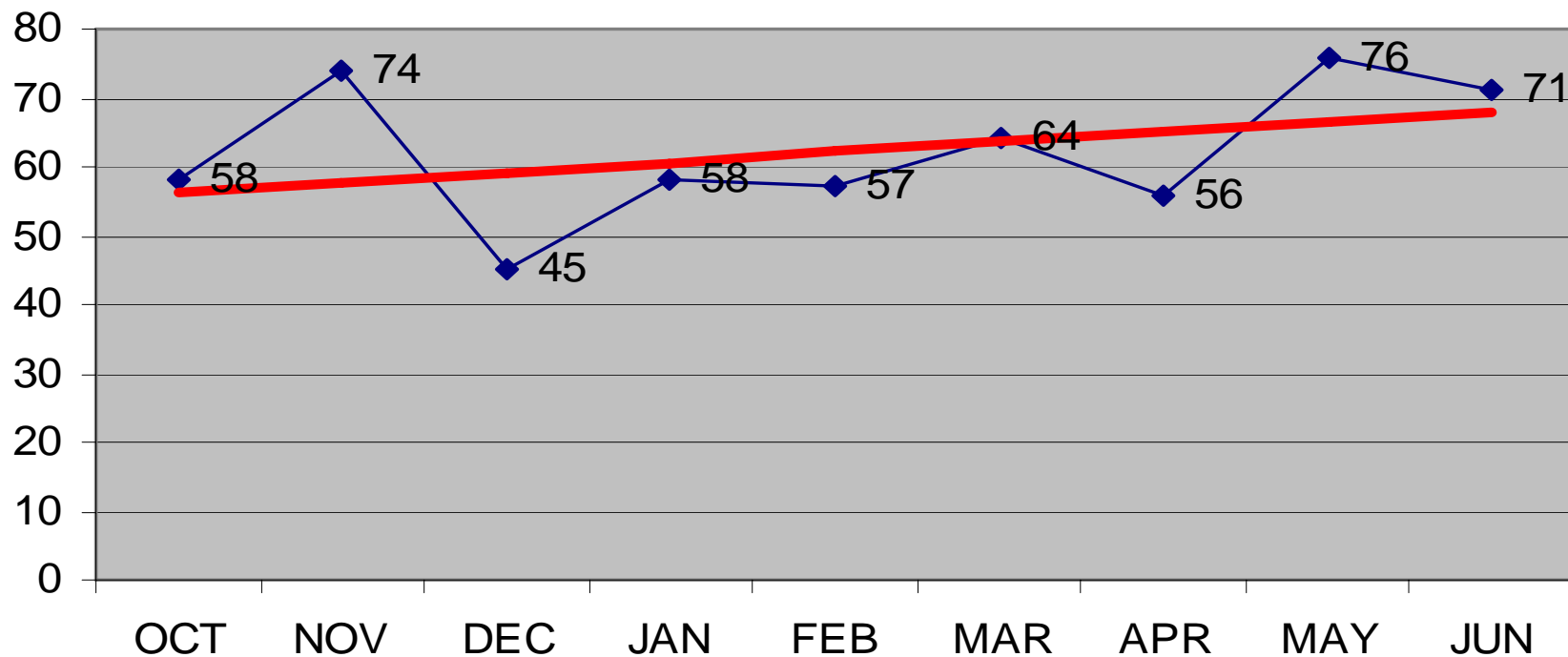


Runway Incursion Reduction Requires Partnership



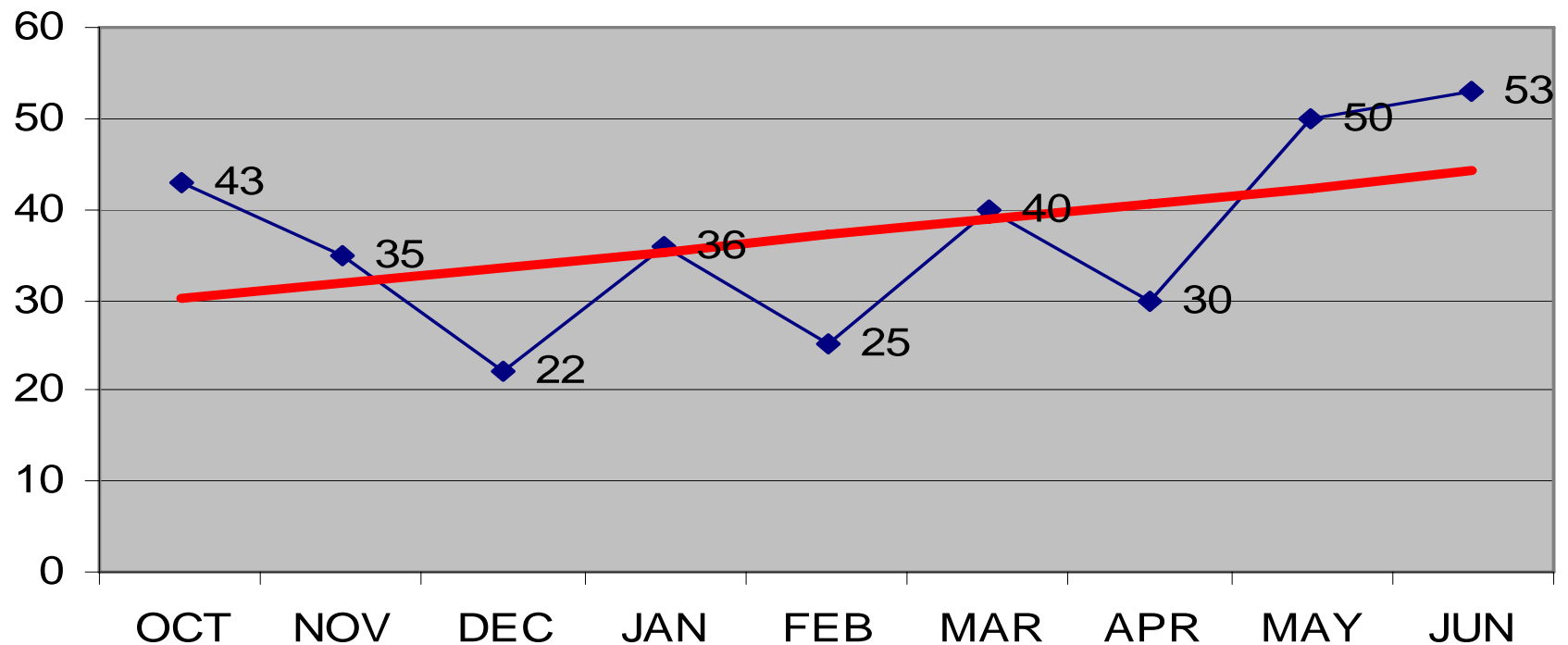
Runway Incursions, Total

Runway Incursions, Total
October, 2007 through June, 2008



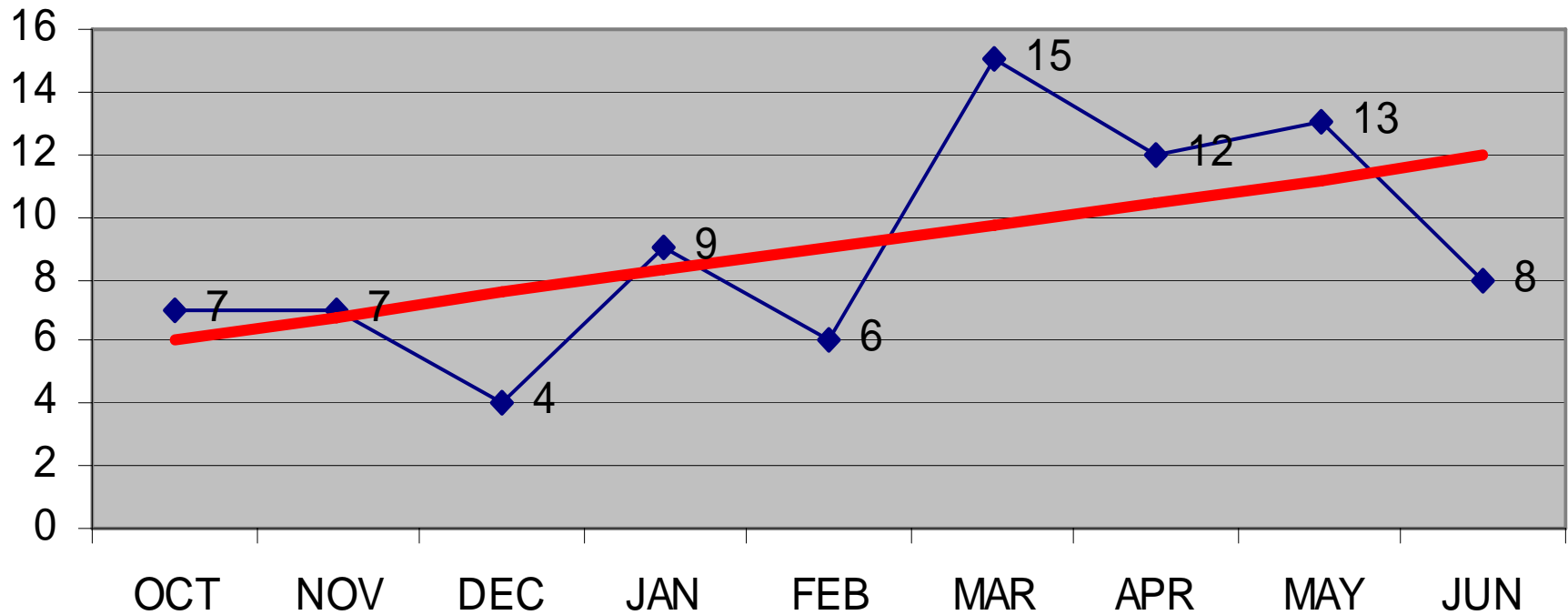
Airspace Incursions, Total

**Airspace Violations, Total:
October, 2007 through June 2008**



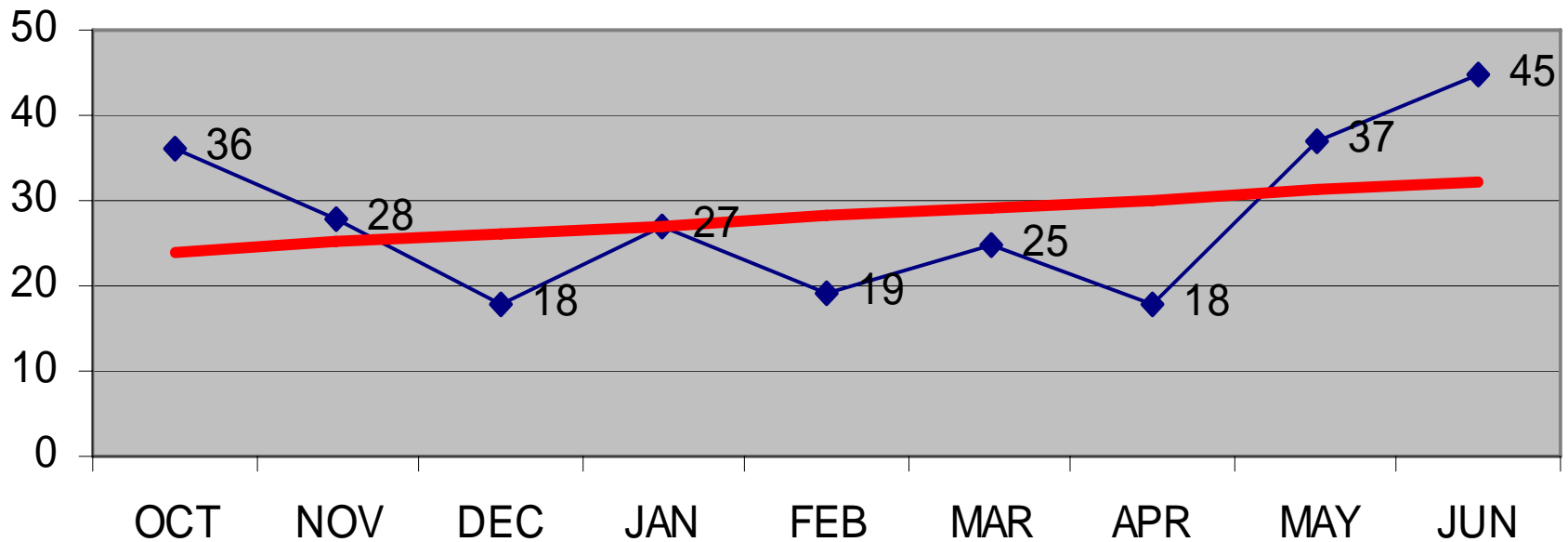
Airspace Incursions, ADIZ Only

Washington, D.C. ADIZ Violations



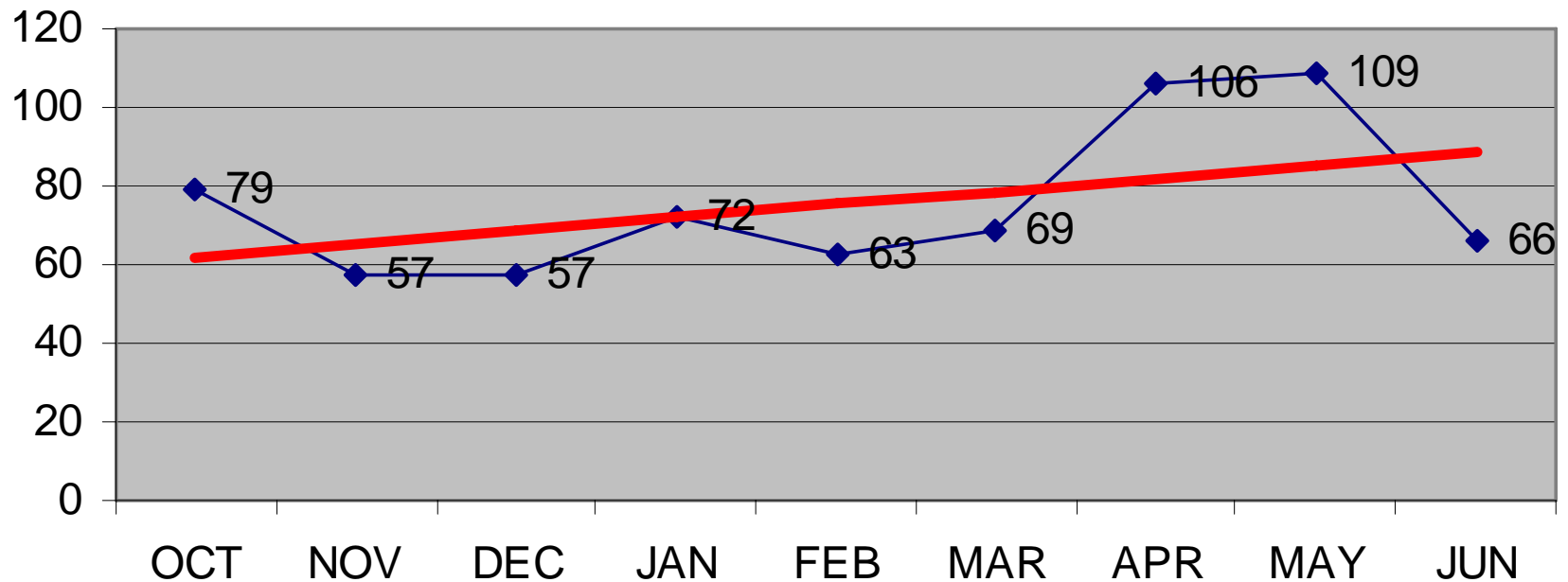
Airspace Incursions, Minus ADIZ

**Airspace Violations Minus ADIZ:
October, 2007 through June, 2008**



Altitude Incursions

**Altitude Clearance Violations:
October, 2007 through June 2008**



FAA Flight Standards Next Steps

- Flight Standards has formed an Enhanced Pilot Deviation Work Group to improve our understanding and response to pilot deviations in order to reduce the numbers, including runway incursions
- This work group involves stake holders from flight standards and air traffic in developing improved inspector training, investigative techniques, data collection and analysis of pilot deviations
- This data will allow the FAA to better understand root causes and design interventions that assist both industry and the FAA to eliminate future pilot deviations

FAA Flight Standards Next Steps

Confront the Issue on Four Fronts:

- 1) **Enhanced Awareness:** Increase/reemphasize awareness and importance of PDs, their prevention and useful data collection when they do occur.
- 2) **Data Acquisition:** Develop methodology's) for acquiring useful data on causes driving PDs.
- 3) **Determine Root Cause:** Analysis of acquired data to determine root causes
- 4) **Create Solutions:** Develop and implement solutions derived from root cause analyses

FAA Flight Standards Next Steps

Enhanced Awareness:

When

- | | |
|---|---------|
| 1) This meeting | Today |
| 2) Memo from AFS-1 to all FAA Managers/Supervisors restating the importance of awareness of PDs | 8/15/08 |
| 3) Increased emphasis on PDs through Flight Instructor Refresher Clinics (FIRC)s | Ongoing |
| 4) Increased web visibility of the FAA effort to reduce PDs by installing direct links to the appropriate FAA PD websites on the FAA's home page. | 8/30/08 |

FAA Flight Standards Next Steps

Enhanced Awareness (continued):

- | | |
|---|----------|
| 5) Industry participation (e.g., AOPA, ATA, RAA) | 10/31/08 |
| 6) Distribution of training materials (DVD) | Now |
| 7) Published Notice 8900.48 from AFS-1 to all Managers/Supervisors restating the importance of awareness of PDs | 7/31/08 |

FAA Flight Standards Next Steps

Other Efforts:

- Centralize all pilot deviation documentation into the FAA Order 8020.11, Aircraft Accident and Incident Notification, Investigation and Reporting and modify all other guidance, such as the Combined Electronic Handbook 8900.1.
- Establish Regional Pilot Deviation Points of Contact for coordination between field offices and Headquarters.
- Improve the display of data to include information on each of the principal areas of pilot deviations, such as ADIZ violations, runway incursions, TFRs, etc., and to do so by district or region.



The Target:

“A thorough, objective, and timely investigation into any allegation of unsafe actions, leading to data-driven interventions to improve safety.”

Mike Lenz, 2008



Questions?



THE CHICKEN

Pilot Deviation by Type - Oct 07 - June 08

